

American Aviation

25c

The News Magazine of Air Transportation

May 1, 1948

Load Factor Goal

HAS AIRLINE planning been based on passenger load factors too high to be reasonably attained under normal peacetime operating conditions?

Harold D. Koontz, assistant to the president of Trans World Airline, raised the question in his speech recently before the annual ATA Engineering and Maintenance Conference.

"In my judgment," he said, "the airline goal must be to reduce the break-even passenger load factor to 50% and the break-even payload factor to 45%. I admit that most of our in-

dustry planning has been based upon approximately 60% and 55%. But there has been no large mass transportation agency which has yet been able to continue long with a load factor this high. Our experience to date is far from these goals with break-even load factors being more in the neighborhood of 65-70%."

If Mr. Koontz is correct that no large transportation agency has ever been able to continue long with load factors of 55% and above, then the airlines are today even farther away from a profitable break-even point than they thought.

From the angle of public service, a 50% load factor is a great advantage and lessens the need for intricate reservations systems. From past experience it is only too clear that a 90% load factor, even if it could be achieved in peacetime, is not a public service. Such a load factor only means that a lot of people were turned away.

Most break-even load factors today are about 70% and the \$20,000,000 industry-wide loss in domestic operations last year, testifies to the fact the actual load factors were below that range by a considerable margin. Despite strenuous efforts to reduce both direct and indirect costs, the outlook for 1948 is anything but bright.

Mr. Koontz did not say how the goal of 45% break-even factor is to be reached although he did hold out hope that operating costs can be reduced still further. Perhaps the focal point of reaching this goal should start with the Civil Aeronautics Board which even today, after being in existence since 1938, has foggy ideas of airline economics. There is more than a suspicion in CAB actions that it is thinking in terms of much higher load factors

(Turn to page 8)



Heads Braniff's Passenger Service

Langhorne Reid, Jr., veteran reservations expert with Braniff Airways, has been given additional duties as manager of the company's passenger service department. He retains his duties as system reservations manager, in which capacity he developed Braniff's present reservations system that has served as a pattern for several other airlines.

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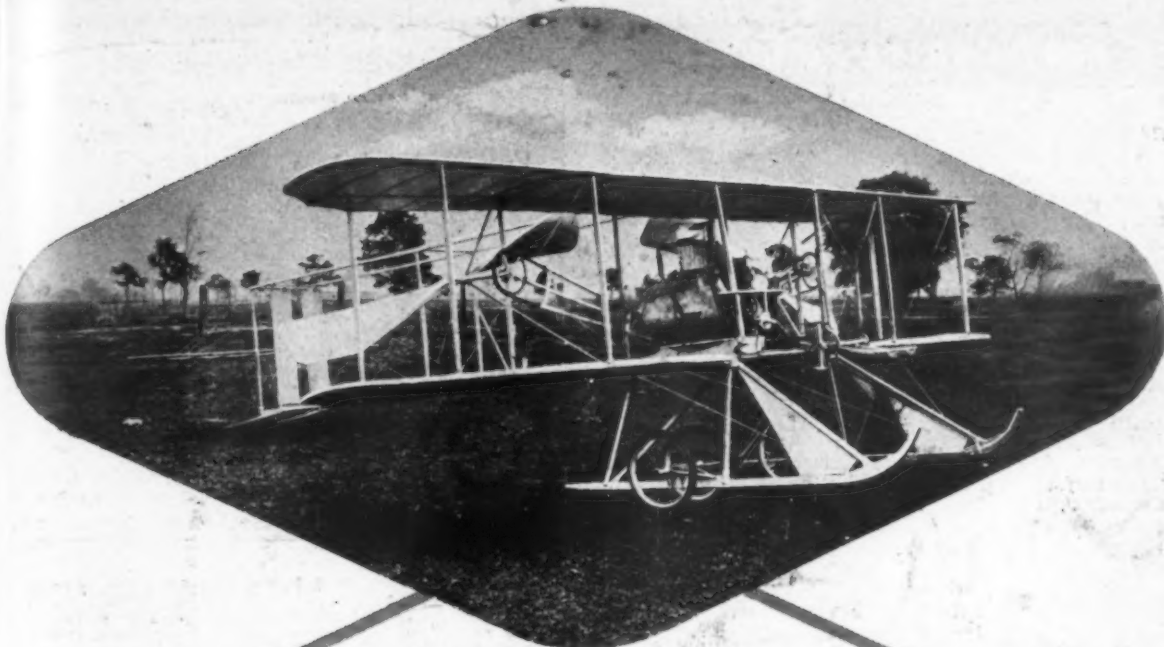
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FORTNIGHTLY REVIEW

CAB called a halt to the air freight "rate war" last week when it established minimum tariffs for both certificated and non-certificated carriers. New "floor" is 16c per ton mile for first 1,000 ton miles of any shipment, 13c per ton mile in excess of that amount. (Page 13)

A new Civil Air Regulation stipulates that after Dec. 1 a flight engineer shall be required on big transports. However, the regulation was confusingly silent as to what sort of flight station must be provided. (Page 14)

Strong plea for simplicity in design of aircraft accessory systems was made by TWA's chief engineer, L. R. Koepnick at the mid-April SAE meeting in New York City. (Page 27)

Recommendation that air freight forwarders be legally admitted to function as indirect air carriers regardless of their surface carrier affiliations, has been made by CAB Examiner J. Earl Cox. (Page 36)

Senate Gets Compromise AF Proposal

A revised defense expansion program calling for a 66-group Air Force, instead of the 70 groups provided for in a supplemental appropriation bill passed by the House, was presented to the Senate last week by the Armed Forces Committee. The 66-group program, supported by Secretary of Defense Forrester, calls for increase of \$3,481,000,000 over appropriations submitted by President Truman last January. Of the total, \$2,956,000,000 would be in cash, and \$525,000,000 in contract authority.

Surplus Plant Disposal Up to Congress

Action in Congress on interim aircraft procurement bills will determine the extent to which the Air Force and Navy will re-activate surplus aircraft plants, military officials indicated last week. War Assets Administration has received Presidential freeze order holding up sale of all government-owned aircraft plants and equipment for 30 days. Not until Congress sets the size of the national defense budget and the Munitions Board determines what plants shall be re-activated to meet new production requirements will WAA be able to continue surplus procedures in defense plant field. The freeze order may be extended indefinitely.

C-W Gets Contracts Totaling \$19 Millions

Two military contracts totaling slightly over \$19,000,000 have been awarded to Curtiss-Wright Corp. One, involving \$17,518,135, went to Wright Aeronautical Corp. which was authorized to start quantity production for Navy on the new 18-cylinder Wright Cyclone engine. Designated the C-18-C-A by the manufacturer and R-3350-26-W by Navy, the new engine is a further development of the Cyclone 18 radial air-cooled engine which powered the Martin Mars, Douglas AD-1, and Lockheed Truculent Turtle. It is rated at 2700 hp, with greater power available for combat operation through water injection.

The second contract authorized \$1,500,000 for C-W's Airplane Division to spend for tooling, materials and engineering to equip itself for early production of its latest combat airplane, the 600 mph XP-87. No production contract has yet been awarded for the XP-87, experimental four-engine jet-propelled fighter built at Columbus last year and now being tested at Muroc Air Base, Calif.

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AMERICAN AVIATION

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For the Air Force, Boeing is building the B-50 Superfortress, XB-47 Stratojet and C-97 Stratofreighter; for the Army the L-15 liaison plane.

FORTNIGHTLY REVIEW

(CONTINUED FROM PAGE 4)

CAA Proposes Industry Certify Personal Planes

Taking another step in its program of delegating responsibility to the industry, CAA last week was circulating a proposal that personal aircraft manufacturers who have met and continue to maintain adequate standards of fitness and ability be allowed to certify to the airworthiness of their products. The proposal, being distributed for industry comment, provides for simplified airworthiness standards to be prepared by the manufacturers.

Senate Committee Censures Hughes, AF

The Senate War Investigating Committee on April 14 charged Howard Hughes with squandering public money in wartime aircraft enterprises and criticized the Air Force for "vacillation and indecision" in its war contracting. The report to the Senate branded Hughes' wartime activities "a failure" and maintained that he spent "substantial sums" on government procurement officers with whom he was doing business. The F-11 photo reconnaissance plane was called a failure as a war project, but it was admitted that the plane may have some postwar experimental value. "If the Air Force," the report declared, "had handled this project with the same determination and vigor it applied to other combat aircraft procurement projects, and had Hughes Aircraft Co. been operated in accordance with standard business and production practices, the committee is of the opinion that at least some F-11 planes could have been completed in time to be used in combat."

Democratic Senators on the Committee who refused to approve the report of the Republican majority were planning to file a minority document tending to clear Hughes of the charges.

Names in the News:

A. B. McMullen, chief of the airports branch of CAA in Washington from 1938 to 1940, has been named executive secretary of the National Association of State Aviation Officials and will open offices in Washington shortly. He served as a colonel in the Air Force during the war, commanded the \$8-million Miami Air Depot and similar installations in Africa and Europe.

W. Stuart Symington, Air Force secretary, recently told the House Armed Service Committee that Russia is building 12 times as many planes as the U. S. . . .

Robert M. Love, president of All American Aviation, was presented the degree of honorary commander of the Most Excellent Order of the British Empire, conferred by the King of England, during ceremonies held at the British Embassy in Washington, April 20. Col. Love was one of the first officers to become associated with the Army Air Forces Ferrying Command in May, 1941 . . .

H. K. Rullison, formerly treasurer of American Airlines, has been elected treasurer and a director of the Flight Safety Foundation, Inc., New York.

Notes in the News:

Navy has completed arrangements with **Chance Vought Aircraft Division** of United Aircraft Corp. to occupy the Navy industrial reserve aircraft plant at Dallas for production of jet (XF6U-1) fighters. Move will require about a year, but company will continue operations at Stratford plant full-scale, manufacturing F4U-5 Corsairs until late this year . . . **Consolidated Vultee** has revealed that a B-36 bomber landed at Fort Worth, Tex., April 9, after remaining in air for more than 30 hours on test flight—a record for bomber of this size. The plane shuttled Fort Worth-Pacific Coast several times . . . **Bell Aircraft's 47-D** helicopter has become first aircraft to receive blanket license from CAA

to crop dust with sulphur, according to company. This is seen opening new agricultural fields to the Bell helicopter in Florida, Texas, Alabama, Louisiana, and the southwest, where sulphur is widely used to fight insects and disease . . . **Shipment of 569 personal planes** by 13 companies in March boosted first quarter total to 1,472 commercial sales, valued at \$5,947,000, in addition to 95 liaison aircraft for Army. Only 441 commercial units were shipped in February . . . The **1948 National Aviation Clinic** will be held in Detroit, Oct. 17-21, with headquarters in the Book-Cadillac Hotel. Business sessions will be held in the Detroit Masonic Temple.

International

Irish Air Lines to Sell Connies

In line with decision of the Irish government, Irish Air Lines (Aerlinnte Eireann) has cancelled its contemplated service between the U.S. and Ireland. Physical assets of the company, including five new-type Constellations which had been delivered to the airline, will be disposed of, and J. F. Dempsey, general manager, was in the U. S. last month to consider bids for the aircraft. It was emphasized that the decision in no way affects services of Aer Lingus, which operates to Great Britain and the continent. Passengers holding reservations on Irish Air Lines, which originally planned to begin U. S. service on Mar. 17, have been assured space on other airlines. The new Irish government has indicated that it was opposed to new air services, unless they could pay their own way.

British Jet Transport in First Flight

The British pure jet Nene-Viking transport has been taken on an initial 20-minute flight at Wisley airfield near Weybridge. The plane is patterned on the standard Viking and is powered by two Rolls-Royce Nenes of 5,000 lbs. S. T. each. The Nene-Viking trials will soon be supplemented by those of the Avro Tudor VIII with four Nenes, according to the Society of British Aircraft Constructors.

Swedish Air Lines Strike Ended

The strike of 1,200 maintenance and some operational employees of ABA, Swedish Air Lines, which began last Nov. 28, was ended last month. Pay demands by the strikers were only partially met. During the strike, one of the longest in air transport history, operations of Scandinavian Airlines System terminated at Copenhagen, but they have already been resumed to Stockholm. ABA has total of about 3,000 employees, majority of whom (except strikers) were kept on payroll during strike.

Scandinavian Operational Merger Begins

Amalgamation of the service throughout Europe of DDL, Danish Air Lines; DNL, Norwegian Air Lines; and ABA, Swedish Air Lines, under banner of SAS, Scandinavian Airlines System, began formally on April 18. Officials estimate it will be two years before all functions are completely coordinated. Each airline retains its corporate identity but in all other respects the three companies will function as one. The private Swedish international company, SILA, will remain as a holding company of private interests.

Miles to Drop Aircraft Manufacturing

The aircraft section of Miles Aircraft Ltd., which has been in financial difficulty, is expected to be taken over by Handley Page Ltd., with Miles gradually dropping from of the British aircraft manufacturing scene. Fate of the Miles Marathon, a four-engined 14-20 passenger transport, is reported still undecided.

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EDITORIAL

(CONTINUED FROM PAGE 1)

than the industry, and the industry itself has had to reduce constantly its optimistic sights of 1945 and 1946.

Certainly one of the first objectives should be for the CAB itself to establish in terms of public convenience and necessity just what a public-service load factor should be. If it is 50%, then planning can originate from that point. After all, the air transport system was established for the public good. The obvious starting point should be the kind of frequency of service which suits the public needs and desires. Then the task of planning can begin to determine how this goal is to be attained.

Memo Without Comment

THE FOLLOWING is an inter-office memorandum so amazing in significance that it is printed without comment.

April 15, 1948.

"From: Len Eiserer

"To: Wayne W. Parrish

"Subject: CAB and Airline Competition

"In effort to determine the extent of direct competition in the domestic airline industry, for possible use as a news story, on April 13 I phoned Ed Bolster, chief, operations division, of the CAB Economic Bureau, to find out whether CAB has made any study or compilation showing what percentage of each airline's certificated mileage is subjected to direct competition by another carrier.

"Bolster told me that to his knowledge no such study showing the overall competitive route structure has been made by CAB. However, he referred me to F. H. Crozier, chief, analyses division, Economic Bureau, in belief that Crozier might know of such a study.

"Crozier was not in his office when I phoned, but his secretary assured me that one of his assistants in the analyses division, Bruce Miller, would know of such a study if one were in existence. I talked to Miller who was sure that no such study had been made in the analyses division. Miller then referred me to Jim Henry, in tariffs and services division, Economic Bureau, since Henry keeps the up-to-date route mileages of all U. S. carriers and might know of such a study.

"Henry was not in at the moment, but an assistant told me they had made no such study and referred me to Mrs. Flandreau (also in tariffs and services) who is directly responsible for keeping the records on what route points are being served by each airline, when new points are added, etc.

"Mrs. Flandreau assured me that she knew of no such study of competitive route mileages.

"At this point I gave up the telephone and went over to see Ed Slattery, chief, public information section, in the slight hope that maybe some examiner or someone else may have made such a study. Slattery said he knew of no such study, but that Jim Henry should know if any had been made, since he controls the key records. He had his secretary phone Henry to double-check on what Henry's

assistant had told me above. Henry verified the fact that he had made no such study and knew of no such study.

"Such a survey could be made from data in his files, but no one in CAB had asked for such a study so none had been made.

"Slattery's office shared my amazement that CAB had no overall picture of the competitive network it had created, but pointed out that in each route case CAB does have before it information on the competitive nature of the specific area involved.

"However, this merely confirms the obvious fact that CAB lacks an overall view of airline route structure, no long-range creative plan."

Pass me a slice of that hog fat, pappy, I'm a-gittin' hungry.

Historic Achievement

ONE OF the least publicized but most important aviation groups in Washington is the Army-Navy-Civil Committee for Visual Aids which operates under the Aeronautical Board. Expanded from wartime requirements, the committee is composed of 12 representatives, six military and six civilian. From civil ranks are representatives of the CAA and CAB, Air Line Pilots Association and Air Transport Association.

This is the first time such a representative group has been able to show real progress on the squabbles and disagreements that have long existed over landing aid problems. The committee is the steering group overlooking the important Arcata landing aids research at Arcata, Calif., which Transocean Air Lines is operating under contract, and it is endeavoring—so far successfully—to achieve agreement for standardizing the various aids. Approach lights have already been standardized. Runway lighting is now under discussion. At long last there is hope that agreements will be reached on all important landing aid items.

A Good Choice

THE NATIONAL Association of State Aviation Officials is to be congratulated for selecting Col. A. B. McMullen as its executive secretary. The one-time aviation director of Florida and airport director for CAA has had a long and honorable record in aviation. A long illness resulting from the war has kept him inactive until recently. He will do a good job for NASAO.

'Safety is No Accident'

THE ABOVE title is the very appropriate slogan of Colonial Airlines which on April 18 completed 18 years of airline operation without fatality to passenger or crew members. That's an enviable record for which pilots, operations and maintenance personnel, and top management can be well proud. With 184,000,000 revenue passenger miles to its credit domestically, this may well be a world record.

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ing several days can be completed in comfort and without fatigue *in one day*."

Economy? Operating cost as low as 1¢ per passenger mile! Of a recent trip, Mr. Zelle says: "Fare by other means would be about \$47 for myself and son. Fuel and oil cost by Bonanza—\$6.80."



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BACKGROUND & TRENDS

Good Reaction: Initial reaction on Joseph O'Connell and Harold Jones, new CAB members, was good. Nomination of Russell Adams to succeed Harilee Branch, whose resignation becomes effective May 1, was also well received.

Certification Trouble: Transport plane manufacturers are looking to John Alison, Assistant Secretary of Commerce for Air for aid in elimination of some red tape surrounding CAA certification of new transport models. Plane makers have become increasingly disgusted with government's costly and complicated procedure. Present methods, entailing constant change, are blamed for inability of manufacturers to quote airlines a price, delivery date, gross weight or speed.

Douglas Order: Remaining \$19,000,000 of unobligated 1948 Air Force funds for transport aircraft procurement are expected to go to Douglas Aircraft Co. A portion of the funds, it is believed, will be used to modify existing C-74 Globemasters—strengthened wing, larger engines, redesigned cockpit, etc.—allowing greater load and speed. Balance of money will go into improved prototype of C-74, to be known as C-124, also with larger engines and other changes. Fourteen C-74's were built; one was lost; one used in static tests.

Profit Expected: Douglas Aircraft Co. expects to be in the black by a modest figure in 1948, according to information recently given stockholders. All development work on the DC-9 transport project has been suspended, but company hopes for additional DC-5 sales—possibly 5-10 to foreign customers and 10-15 to U. S. airlines.

AF Cargo Interest: Air Force has reasserted officially to CAB its "deep concern" over "maximum stimulation of the air cargo industry." In letter to former CAB Chairman Landis last December, C. V. Whitney, assistant secretary of Air Force, declared that a "well developed air cargo industry" was one of best means for bridging gap between peacetime military air transport and "initial requirements of these forces in the event of an emergency, or of war." He urged Landis to "bear in mind our feeling" in arriving at CAB decisions. Early last month, Whitney repeated the AF's views in a letter to new CAB Chairman O'Connell, noting that several cases before CAB relate to development of air cargo industry. "We believe that the national defense point of view might well be considered not only in connection with the Air Freight Case but also in connection with other related cases receiving the attention of the Board," Whitney wrote.

PO Interest in CAB: Indication that the Post Office Dept. plans a more active part in CAB cases is seen in a PO request to Congress for \$24,897 with which to add five persons to its air mail research and analysis unit. The expanded unit would analyze rate and route applications filed with CAB, determine the PO's position on such applications. PO has had staff of three working on these cases. PO has also requested \$11,252 to hire two persons to handle Air Coordinating Committee activities.

Ditching Precaution: United Air Lines has allocated a plane in San Francisco specifically for indoctrinating pilots in proper ditching procedures. A Coast Guard pilot is assigned to the plane to explain proper techniques under different wind and sea conditions.

More Cargo Planes: Eastern Air Lines, which now operates two C-47's and one C-54 as cargo planes, intends to convert four of its DC-4 passenger types to cargo at time of their regular overhaul this spring and summer. Company this summer again plans to sublease to other companies equipment not needed for normal scheduling. This reimburses EAL for such fixed charges as depreciation, insurance, and overhaul provision during its slack season.

Conversion Cost: Capital Airlines, which is in process of converting all its 59-passenger DC-4's to 50-place planes, is doing the work in its own shops for less than \$2,000 per plane. Best outside bid was about \$12,000 per plane.

Nonskeds in P. R.: Far from disappearing, the non-scheduled passenger traffic in and out of San Juan, Puerto Rico, remains quite heavy. A report for February reveals that 14 non-scheduled carriers in February carried 2230 persons out of San Juan, and 1302 into the P. R. capital. Inbound non-scheduled traffic constituted 30% of total air traffic. One non-sked, in fact, carried more passengers to San Juan than did Eastern Air Lines. In March one of the non-skeds discontinued, but the traffic has outlasted the guesses of experts that it would drop to insignificant amounts sometime last year.

Orient Boom: Some airline and surface transportation officials look for trebling of cargo business between Japan and U. S. in next four months as result of recent State Department action lowering tourist and trade barriers in Japan. If the Orient trade boom materializes, Northwest Airlines may set up weekly all-cargo flight between Tokyo and U. S.


NWA's Rebate: First comment from CAB on Northwest Airlines' 5% fare refund made when schedules are more than 30 minutes late came in the recent "Big Five" mail rate show cause orders. Said CAB: "The economic soundness of the . . . provision depends upon whether it attracts additional traffic sufficient to meet the cost of the refund. Certainly, no provision should be made in the mail rate for any net cost to the carrier through adoption of such a rate device in competing for the passenger traffic."

Recapturing Loss: Citing recent CAB rate decisions for other airlines as "rather satisfactory," T. E. Braniff, president of Braniff Airways, has noted that if CAB applies same formula to his line "we will have recaptured all the losses incurred in this end of our business in 1947" (net loss was \$1,148,761). Braniff predicted CAB action on company's mail pay petition by May or June.

TWA Mail Loss: TWA is faced with loss of substantial amount of air mail from Italy to U. S. Such mail, which formerly went all the way via TWA, is now being routed over Alitalia (partially owned by British European Airways) to Lisbon, Paris, and London. TWA may still get the haul from Lisbon or Paris, but there is possibility that Air France, BOAC, or another carrier might be used.

Lucrative Business: West Coast growers and shippers have developed a \$7,000,000 annual business out of air freighting cut flowers to the midwest and east, according to Andre de Saint-Phalle, president of California Eastern Airways.

These Curtiss propeller features are service-proved



They have accumulated flying time on leading types of aircraft . . . over all air routes. Curtiss first introduced to service use *automatic synchronization, reverse thrust and hollow steel blades*—three great propeller developments. Each of these features has been *service-proved* on commercial and military aircraft. Each is *daily* adding more flying time. Here are the *service-proved* facts about . . .

1 CURTISS AUTOMATIC SYNCHRONIZATION — It "gears" the speed of all engines electrically under the control of a single cockpit lever . . . eliminates noisy, tiring, off-rhythm engine "beat" . . . assures greater passenger comfort . . . frees flight crew for other duties.

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Freight 'Rate War' Ends As CAB Sets Minimums

By DANIEL S. WENTZ II

The widely-publicized "rate war" in the air freight business has come to a close. Final shot was fired by the Civil Aeronautics Board on April 22. Speaking to all carriers—certificated and non-certificated alike—the Board informed them brusquely that they would have to charge more for their air freight service. Reason, Board said, was simple: both groups had been selling their air cargo service for less than it cost them to produce it. The Board viewed this situation with disfavor regarding it as a danger to the success of the air cargo experiment it is sponsoring.

Henceforth air freight tariffs will have to be higher than a "floor" set by the Board. Minimum rates will have to be at least 16c per ton mile for the first 1,000 ton miles of any shipment and 13c per ton mile for volume in excess of 1,000 for any shipment.

Purpose of the floor, CAB proclaimed, was to prevent "unlimited rate cutting on a purely competitive basis." It warned the carriers that the general minimum rates, by their very nature, could not assure profitable operations or guarantee the continued sound development of the freight business. According to its opinion, the rate floor was designed to leave the carriers sufficient freedom—but also responsibility—to work out their own rate structures above the rate floor to permit the sound development and promotion of air freight service.

CAB pointed out that its purpose in setting a floor would be defeated if each freight line fixed its rates exactly at the prescribed minimums "unless the rate structures could be justified on the basis of demonstrable reductions in cost." But, it held, reduction in cost must be shown or the rate structures would be regarded as unsound and as evidence of purely competitive rate cutting. If this happens, Board will act on its own initiative to change the situation.

Rate Principles. Fixing a single floor for all rates looked impracticable to the Board. Instead, it put out its double minimum which, it says, will limit the chances for destructive competition over routes and on items in which competition is hottest. The double floor will still allow lower rates for large ship-

ments travelling over long distances.

On this point, CAB recognized as sound two rate making principles: (1) that rates may be scaled down as the distance of shipments increases; and (2) that rates may be decreased as the weight of a single shipment goes up. This second principle may show up in new tariffs to be filed, as a series of what are called "volume breaks." Such volume breaks have historically been the basis on which freight forwarders have operated by consolidating many little packages into one big one which can then be shipped at a lower rate because of its greater weight. CAB admitted that its new minimum rates are still below present costs, but it feels that they are not below costs that can be attained in the foreseeable future by managerial economies.

CAB assured the lines that it did not



Nominated for CAB—Russell S. Adams.

director of CAB's Economic Bureau, was nominated by President Truman April 21 to fill the CAB vacancy created by resignation of Member Harlee Branch on May 1. The nomination of Adams had been anticipated for several months. Adams, 37, joined CAB on July 19, 1939, and before that served as a Post Office inspector. He has headed the Economic Bureau since August, 1945, and has participated in numerous international aviation matters connected with ICAO and its predecessor body. The term expires Dec. 31, 1950.

want to freeze freight rates "in this early developmental period." It therefore let it be known that any company could ask for rates below the floor levels if it thought a lower rate was needed to attract a new type of business or if a lower rate would help iron out "inequities or disparities within the rate structure."

Many of the existing freight rates, CAB said, were set up almost wholly for purely competitive reasons. The entire rate structures "of a number of the most directly competitive carriers in relation to cost are so low as to endanger the sound development of air freight and to undermine the financial condition of the carriers," it said. Board made it clear that it would not allow the air cargo experiment to be undermined by competitive pressures forcing rates down below costs.

The Board gave weighty consideration to the crucial question of what it cost to carry freight by air. Some carriers had said that it did not cost anything because their planes had available space which would have to be carried anyway. CAB rejected this idea. Other companies maintained that freight cost them only those amounts of money which they would not have to spend if they were not in the freight business. Board said this wouldn't work, either because air freight was fast becoming a major business in its own right. It likewise threw out another theory which proclaimed that an accountant could sit down with his figures and come up with a "fully-allocated cost" of carrying one ton of freight one mile.

The Board therefore concluded that while the cost figures of the non-certificated carriers could not be taken as typical, they came pretty close to the best working guesses of the costs of the certificated airlines. For this reason, it said, "the 1947 experienced costs of the non-certificated carriers represent, in effect, a practical minimum for the costs of an all-cargo service." In this way, the 16-13 rate floor was decided on.

The whole deal looked like a victory for the non-certificated lines. Many of them had complained to CAB last autumn that the certificated airlines' tariffs were designed to undercut their business. On the other hand, many of their tariffs were far lower than anything the airlines had proposed. It was also no secret that profits at the going rates were mighty slim, if any. Some observers felt that the new floor would be welcomed by both groups and that it should contribute to the stability of the industry. Competition will be stiffer than ever, but most of it will be in some form other than competitive rates.

Flight Engineers, But Where?

By KEITH SAUNDERS

Airline officials, engineers and attorneys have long complained that they have to spend entirely too much time in trying to interpret correctly and comply with amendments and additions to the Civil Air Regulations. Seldom had they seen a better illustration of this than the amendment to Sub-section 61.56 of the C.A.R. which was adopted by the Civil Aeronautics Board on April 14.

The amendment stipulated that after next Dec. 1 an airman holding a flight engineer certificate shall be required solely as a flight engineer on all aircraft certificated for more than 80,000 pounds maximum take-off weight, and on all other aircraft certificated for more than 30,000 lbs. maximum take-off weight where it is found that the design of the aircraft or the type of operation is such as to require engineer personnel for the safe operation of the aircraft.

It was less what the regulation said than what it didn't say that had the airlines worried. Obviously, it meant that flight engineers would have to be provided after Dec. 1 on all Douglas DC-6's and Boeing Stratocruisers, and under certain operating conditions, such as long overwater flights, would have to be provided on some other aircraft types, including the DC-4. But if a flight engineer is to be added to the crew of a transport plane, some sort of flight engineer station must be provided, and it is on this point that the regulation was conspicuously silent.

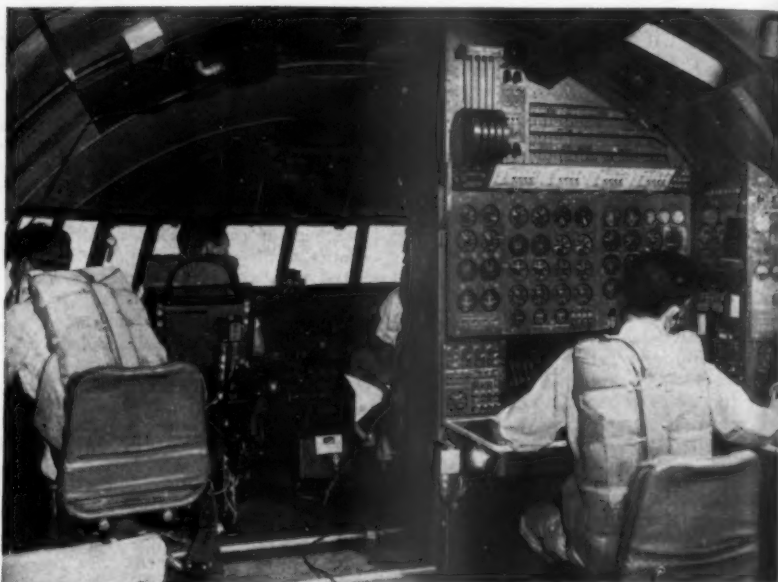
Presumably, since the matter was not mentioned at all, the CAB was quite willing to let the individual airlines decide for themselves what would constitute a suitable flight engineer station and then work out with the manufacturer such modifications as might be found necessary.

To Lockheed Aircraft, this would be no problem at all, since the Constellations were designed with built-in flight stations. Boeing didn't have too much to worry about, because all but one of the customers for Stratocruisers already had specified that engineer stations be provided. But some users of the Douglas planes were not so sure where they stood. Most of the DC-4's now used on transoceanic routes have flight engineer stations, but there are some that do not, and none of the DC-6's, just now returning to service after extensive modifications, have such stations. They have jump seats behind the cockpits, it is true, but would these be practicable in actual use?

In discussing the need for flight engineers, CAB had said that "the multiplicity of instrumentation and complexity of operational controls on certain of these aircraft limit the pilots' ability to focus attention on all the critical instruments and controls . . . and that a com-

petent flight engineer, by assuming certain mechanical duties, will enable pilots to concentrate on actual flight of the aircraft, radio operation and receipt of traffic clearance, particularly under instrument conditions . . ."

It appeared to be a question of whether a flight engineer could sit in a jump seat behind the captain's seat or behind and between the two pilots' seats and satisfactorily watch and reach the necessary number of controls. If not, and separate controls would have to be



Engineer's Station—The flight engineer ruling just adopted by CAB presents no problem to Lockheed Aircraft, since its Constellation and Constitution (shown above) were designed with built-in flight engineer stations. For others, however, the ruling may mean expensive modification or use of a jump seat for added crewman.

installed for him, it would be a major modification and very, very expensive.

Dodges Issue. What concerned the airlines was the fact that CAB had said not a word about flight stations, leaving the matter entirely to their judgment. Suppose they tried to get along by using jump seats as flight stations, and then someone should have an accident. Would CAB then claim the airline had not properly complied with the intent of the regulation?

Apparently, CAB was ducking the issue. It thought flight engineers should be provided on certain aircraft but it was not willing to order the financially-harassed airlines to spend hundreds of thousands of dollars on extensive modifications when a jump seat might serve the same purpose. This left the airlines on the hot seat, and they could only hope their decision would be a right one.

The new regulation was based on

testimony given at a CAB hearing last October dealing with the question of whether, and under what circumstances and conditions, if any, additional flight crew members—flight engineers, flight radio operators and flight navigators, individually or collectively—should be required on air carrier aircraft.

As far as domestic scheduled carriers are concerned, it was found that flight navigators and flight radio engineers were not necessary because "the navigational aids available to pilots, and the dependability of radiotelephony are such as to obviate the need for professional assistance to the pilots in these specialized fields."

In foreign and overseas scheduled air carrier operations, it was ruled that an airman holding a flight radio operator certificate shall be required solely for communication on that route or route segment over which the Administrator had determined that radiotelegraphy is necessary for communication with ground stations during flight. And so 4.330 was amended to provide that an airman holding a flight navigator certificate shall be required solely for navigation on that route or route segment for which the Administrator has determined that celestial navigation is necessary, or where other specialized means of navigation necessary for safe conduct of flight cannot be adequately accomplished from the pilot station.

In any case, the Administrator would determine the minimum flight crew by review of the proving flights "and such other inspection as he finds necessary."

AMERICAN AVIATION

PLANES

\$500,000 Convair-Liner

Last January rising costs forced Consolidated Vultee Aircraft Corp. to withdraw its \$360,000 price tag on the Convair-Liner, with announcement that the transport would not be repriced until a market and manufacturing survey was completed.

After revaluation of all pertinent factors, the company on April 21 revealed that new price for the craft will be about 25% higher, in the \$450,000 to \$500,000 range. Exact price will depend upon special equipment or changes by the airlines from standard specifications, William A. Blees, v.p.-sales, explained.

Company now has two Convair-Liners on a nationwide tour for demonstrations to airline officials and station personnel. One version equipped with the forward integral loading door (American Airlines version) is covering the Atlantic seaboard, the other with tail loading ramp (Western Air Lines version) is flying midwest and western routes.

Convair's annual report released April 20, showed a total operating loss of \$36,021,393 (reduced to \$16,721,393 by Federal income tax carrybacks), of which approximately \$32,389,703 was held attributable to the twin-engine transport.

Floyd Odlum, board chairman, said factors responsible for the Convair Liner losses included rising design and engineering costs, increased prices of materials, critical parts shortages and delays encountered during the testing period. Originally, he said, the company had expected to build the transports with the expenditure of less than 30,000 man-hours of direct labor per plane, but this was revised to 55,000 last November and was disclosed to average 75,000 man-hours by the year-end audit.

Odlum said orders now total 158, with an additional 20 being built in anticipation of new orders.

Unfinished work under unfilled orders at the close of the fiscal year last Nov. 30 was valued at approximately \$207 millions. Of this, about \$138 millions were in military orders, about \$36 millions in commercial and personal plane orders, and approximately \$33 millions in research and development orders.

EAL Reveals Plane Plans

Eastern Air Lines will buy two additional new-type Constellations and 20 medium twin-engined planes in the near future, Eddie Rickenbacker, president, told a company staff conference in New York. The Constellations, to be delivered next spring, will cost \$2,000,000 and the other transports \$10,000,000 he said.

Rickenbacker did not answer the \$10,000,000 question—whether the twin-engined craft would be Martin 2-0-2's or Convair-Liners. EAL crews last month were testing a Convair-Liner over the company's system.

Confusions & Errors

LaMotte T. Cohu had plenty of places to lay the blame for last year's record airline losses, and he missed none of them.

The outspoken TWA president, speaking to the Society of Automotive Engineers in New York on Apr. 15, thought it was a shame that the airlines' record traffic year (1947) had produced nothing but record losses. His reasons for the paradox: "confusions, miscalculations, and errors on the part of the airlines themselves, their suppliers, their regulating agencies, and the makers of government policy."

Furthermore, he said, "unless rapid solutions of the underlying airline problems are found, the results for... 1948 may show a similarly discouraging picture."

The paradox is not inevitable for the future, but the airlines must improve quality and dependability of service and reduce, costs, Cohu stated, adding that once this has been done "public opinion will force such changes in governmental policy that we cannot fail in becoming a sound and integral part of our nation's economic structure."

Airline management cannot alibi for its errors nor should it "deal lightly with the blunders of government nor with the stark realities of basic economic upheavals." Management mistakes listed by Cohu: "planning too optimistically," over-equipping, making "grandiose" expansion plans, building too many "palatial" ticket offices, lacking organization and control to hold costs in line, filing too many route applications, and "unwise" fare reductions.

Some problems are beyond the airlines' control, he said, citing complexity of new equipment. In 1946 it cost TWA \$8,000,000 to introduce Constellations and international DC-4s, not including equipment and spares or the \$7,000,000 which the Connie grounding contributed to net loss. He rapped "irresponsible" labor leadership and hoped that labor will not "operate on a premise that an occasional strike is a good thing to keep management in line and labor union dues fully paid."

After criticizing government in general for allowing inflation which has

nullified efforts to improve efficiency, Cohu turned to the Civil Aeronautics Board which he said has a "confused, unrealistic" air mail rate policy and which has developed "a national route pattern replete with duplicating services and routes requiring considerable subsidy."

CAB, he said, must recognize that (1) excessive competition is not necessary

in a business so closely regulated, (2) a master route development plan is needed, (3) the airlines' national defense importance and their developmental expenses require a mail rate high enough to cover proper costs "and occasionally a special allowance to cover exceptional costs forced on the airlines through no fault of their own," (4) decisions "in the public interest do not require that each city should immediately be given a feederline route whether it can be supported or not or that each

city asking for one-carrier service should be given it if by so doing a sound airline system would not result," (5) certain routes, particularly international, have been granted for policy reasons, and should be given special government financial aid.

The airlines should try cost-cutting by considering pooling of maintenance and overhaul of engines, instruments and accessories, share results of technical and economic research, and consolidate airport services and downtown ticket offices, Cohu asserted.

He pointed out to aircraft manufacturers that the preliminary approach to initial design and development of post-war planes "has been one of concentrating upon structure and aerodynamics. This has resulted in designing the airplane so that accessories and systems are forced to fit into a predetermined structure, causing thereby excessively high modification costs, maintenance costs and mechanical delays.

"The airplane of the future must be designed to avoid this costly mistake. It can be so designed if the airline industry will cooperate with the manufacturer in seeing that structure and aerodynamic design is made comparable with simple and dependable accessory and system design."



LaMotte T. Cohu
He spares no blame

Airlines & National Defense

While Congress and the men charged with directing the national defense debated at length the question of how many air combat groups the country should have, a committee of airline officials moved quietly ahead last week with planning for full coordination of U. S. commercial air transport facilities with military needs in event of a national emergency.

Appointed by the Air Transport Association on April 13, this committee held its first meeting in Washington on April 27. While the possibility of having to disrupt the industry for the second time in this decade by turning over the bulk of its equipment to the military was not at all pleasing, the committee found cause for pride in the airlines' potential of helpfulness.

Whereas in 1941 the scheduled airline fleet of this country had an emergency military transport potential of 34,000,000 ton miles per month, today the potential (based on a 100% load factor and a 25% increase in daily hours of plane utilization) would be 225 million ton miles per month. Translated into passenger miles, the potential is 1,825,000,000 per month, and translated into cargo lift, it is about 420,000 tons (assuming an average haul of a little over 600 miles).

Most of the 340 planes U. S. airlines were operating in 1941 and 1942 were 21-passenger DC-3's. The airline fleet today stands at 970 planes, a sizeable number of which are fast four-engined planes such as the Douglas DC-4's and DC-6's and the Lockheed Constellations, or improved twin-engine transports such as the Martin 2-0-2. Speed, range and altitude operational qualities have been vastly improved over the pre-war fleet.

Significance of the fact that the scheduled airlines today are able to offer more than six times the emergency military air lift it offered at the beginning of World War II was heightened, furthermore, by the extent to which other civil as well as military elements of the national security and defense had declined during the same period.

The ATA special committee, which is working directly with Maj. Gen. Laurence Kuter, chief of the Military Air Transport Service, is headed by Milton W. Arnold, ATA vice president-operations and engineering. Other members are: John A. Collings, v.p.-operations, Trans World Airline; R. W. Ireland, v.p.-administrative, United Air Lines; Leigh C. Parker, v.p.-traffic, Delta Air Lines; C. R. Smith, chairman of the board, American Airlines; and Juan T. Trippe, president, Pan American.

Alternates include: J. H. Carmichael, president, Capital Airlines; G. E. Gardner, president, Northeast Airlines; W. Fiske Marshall, v.p.-operations, Northwest; and R. J. Smith, president, Pioneer.



Farewell—Harlee Branch, who retired as member of Civil Aeronautics Board, May 1, was honored by Aero Club of Washington on April 22. Toastmaster for the occasion was L. Welch Pogue (right), former chairman of CAB.

NEW ROUTE CASES

Green Light for C & S

Nearly two years after it had been awarded the route in the Latin American Route Case decision, Chicago and Southern Air Lines finally got a green light from the CAB to go ahead with plans for extending its caribbean route from Havana to Caracas, Venezuela.

The Board's nod came in the form of two orders: one terminated a proceeding opened by CAB on its own initiative last spring looking toward possible suspension of C & S's certificate beyond Havana, the other a show cause order proposing mail rates for the route.

The currently-operating New Orleans-Havana segment carries a temporary mail rate of 95¢ per plane mile for a daily base mileage of 1,370 miles. But the carrier, asserting that total compensation received under this rate might be inadequate to prevent dissipation of its working capital when applied to enlarged operations, requested \$1.23 per airplane mile, plus profit allowance at CAB's discretion, for a proposed service pattern of three weekly round-trips between Houston and Caracas, via New Orleans and Havana.

Mail rates proposed in the cause order are \$1.25 per plane mile for an average daily designated mileage of 3,367 miles, with adjustment formulae to take care of fluctuations in scheduled and designated mileages. This rate would yield the company an estimated \$1,400,000 annually, and C & S promptly notified the Board that it found the proposed rates acceptable.

Pan American Airways, portions of whose routes the Havana-Caracas service would parallel, quickly reacted by asking CAB to reconsider its order dismissing the suspension proceeding

against C & S's Caribbean route and, as an alternative, filing a formal petition for suspension of the route.

PAA charged that C & S's New Orleans-Havana operation has already involved mail payments "wholly disproportionate to any benefits to be obtained therefrom," and that for every passenger who used the service the government had provided mail pay equal to the fare paid by the passenger.

Extension of the route to Caracas, Pan American said, "would involve tremendous additional costs to the government in the shape of additional mail pay for Chicago and Southern, a draining of traffic from the services of PAA which are already operating with unduly low load factors, and consequently increased need for mail pay of petitioner's Latin American routes."

Chicago and Southern went ahead with survey flights looking to early inauguration of service to Caracas.

PAA Favored Boston-Bermuda

Three carriers—Colonial Airlines, Northeast Airlines and Pan American Airways—had applied for a Boston-Bermuda route certificate. Last week, CAB Examiner William F. Cusick recommended that the award go to PAA.

He found that a public need exists for a Boston-Bermuda service, and that Pan American was best fitted to operate the service because its equipment situation is more flexible than that of the other applicants and because it possesses operating bases and ticket offices at both terminals, whereas Colonial lacks such facilities at Boston while NEA has no Bermuda base. Cusick said it would be a simple matter to amend PAA's existing New York-Bermuda service to name Boston as a co-terminal.

CAB Reopens Route Cases

The Mississippi Valley Case has been reopened by CAB to permit reconsideration of the award of a Kansas City-Jefferson City-St. Louis extension of Route 26 to Mid-Continent Airlines made last December. Limited purpose of the reopening is to determine "whether Continental Air Lines or Mid-Continent Airlines should be the carrier to operate such a route." Action was taken on basis of several requests for reconsideration of the award, among them a motion for stay filed by CAL.

The original award went to MCA because CAB felt that "on a flight involving but 230 miles the traffic potential will receive adequate development only with the establishment of an additional service directed to meeting the local needs."

The Board also reopened the Mississippi Valley Case for further hearing and reconsideration of feederline service in Louisiana, Mississippi, and Alabama, and between points in that area and Memphis. The Southeastern States Case was reopened for new consideration of

feeder service in Mississippi, Alabama, Louisiana, and Georgia.

Awards made to Southern Airways in the Mississippi Valley case were rescinded. CAB held that there was possibility of legal defect in the award in that Southern Airways technically did not have on file an application for service into New Orleans at the time the route was awarded to it.

No new applicants will be admitted to the reopened proceeding.

Parks Receives Certificates

Parks Air Transport, Inc., has changed its corporate name to Parks Air Lines, Inc., and received its temporary certificate for Route 91 following a showing that 21 of 41 certificated points will have adequate airport facilities by May 1.

Segments for which airport adequacy was not demonstrated are Chicago-Minneapolis-St. Paul and Chicago-Burlington, Ia. The certificate was stayed for these portions until airports become available at Winona and Red Wing, Minn., and Aurora, La Salle-Ottawa, Kewanee, and Galesburg, Ill.

Concurrently, CAB issued an exemption permitting Parks to operate (1) to and from Beloit-Janesville, Wis., in lieu of Rockford, Ill., on Segments 1, 5 and 6 of Route 91; (2) to and from Moline in lieu of Galesburg, Ill., on Segment 7; (3) between Peoria, Ill., on Segment 7 and Burlington, Ia. on Segment 3. The Board denied protests filed against some or all of the requested exemptions by United, Chicago and Southern, Braniff, Mid-Continent, and TWA.

The feederline certificate is effective for three years from Mar. 31, 1948.

RATES & TARIFFS

EAL Fares Cause Concern

Of considerable concern to airline officials last week was the question of what action the Civil Aeronautics Board would take toward Eastern Air Lines' request to put round-trip excursion fares (125% of the one-way fare) in effect over its entire system on May 19. In denying EAL's request to put such reductions into effect May 1, the CAB had not been required to judge the request on its merits because the carrier had not complied with the statutory 30-day notice period. But Eastern promptly refiled the tariff on April 19, and now the Board would have to face the issue.

Not directly involved, but also watched with interest, was the excursion fare tariff Eastern had filed, effective May 1, matching similar reductions proposed by National Airlines only between competitive route points.

Other carriers have filed petitions asking the Board to suspend or dismiss the proposed discount fares "principally because of the adverse financial effect which would result from a rate war

which surely can be expected if they are permitted to become effective."

Unquestionably, if EAL were to be permitted to offer a 75% discount on the return portion of a round-trip ticket anywhere on its extensive system, each of the seven carriers with whom it competes on one or more route segments would be all but compelled to meet this reduction, and the matter could well turn into a full-sized rate war on a national scale.

FINANCIAL

Encouragement in Red

The fact that they had lost \$4,835,604 in the month's operations offered little cheer for the domestic trunk airlines, but there were a number of figures in the carriers' January revenue and expense statements which held forth definite encouragement.

To begin with, the January net loss represented an improvement of 41.8% over the record \$8,313,741 operating deficit incurred in the same month last year. But this was a negative sort of encouragement, and it was necessary to look elsewhere in the revenue and expense reports filed with the Civil Aeronautics Board to find more solid grounds for optimism.

On the revenue side of the ledger, there were several shining items. Total operating revenues, for example, were up \$4,609,591 or 21.4% over the \$21,516,768 collected by the carriers in January, 1947. Bulk of this increase—\$3,927,315—

was in passenger revenues, which were up 21.8% in the face of an increase of only 3.1% in revenue passenger miles flown. This improved showing resulted, of course, from two 10% passenger fare increases, one of which went into effect last April and the other last December, but it furnished some indication of what revenue gains might be expected during the better travel months later in the year.

Other revenue items were up, too. Air freight revenues of the certificated trunklines were \$857,255 this January, against \$443,223 in the same month of last year, an increase of 93.4%, and this despite the fact that freight tariffs were substantially lower than the year previous. Mail revenues were up \$357,439 for a gain of 21.9% over the \$1,631,208 payments received for carrying the mail in January, 1947. Air express receipts were up by \$49,402—5.7%—and excess baggage revenues were up \$89,540—39.9%.

As cheering as were these revenue figures, to airline managements there was even more encouragement in some of the January operating expense items. Total operating expenses remained ahead of total operating revenues, but as already indicated, the differential had been narrowed from the previous January. Furthermore, total operating expenses for the month were up only 3.8%—\$30,961,964 against \$29,830,517—although 6.3 million more available ton miles were flown than in the same month last year and appreciable increases had taken place in the costs of materials and supplies and in payments for wages and salaries.

Aircraft operating expenses were up \$1,590,103, or 13% due largely to increased pilot pay, increased aviation fuel costs and increased mileage, but this was partially offset by a reduction of \$458,649 in ground and indirect expenses. This reduction indicated the extent to which the airlines had succeeded, during 1947, in trimming non-flight expenses.

All things considered the January revenue and expense sheets of the domestic trunklines contained a promise of better days to come.

Only EAL Shows Profit

January reports filed with the Civil Aeronautics Board by the domestic and territorial trunklines showed that only one of the 19—Eastern Air Lines—recorded an operating profit for the month.

The net operating deficits ranged from \$1,832,269 for American and \$1,116,090 for United down to \$4,850 for Hawaiian Airlines and \$3,054 for Caribbean-Atlantic. Noteworthy was the fact that TWA, which topped all domestic airlines in 1947 losses, had a loss of only \$121,212 this January, as against \$1,472,870 for the same month last year. And Capital Airlines, which had a deficit of over \$1 million for the first month of 1947 showed a loss of only \$372,438 for this January.

Eastern, in showing an operating net



Trip Identifiers—Metal signs featuring the number and final destination of all flights have been installed by Eastern Air Lines on loading platforms or steps used throughout its system. The new sign is mounted on right side as indicated in this scene showing passengers in New York City boarding Flight 603 for Miami. The trip identifiers are particularly useful in preventing confusion when two or more flights are being handled simultaneously.

MANAGEMENT

of \$444,566 for the month, maintained its record as the most consistent earner in the domestic air transport industry. Its operating expenses had increased, but operating revenues were up about \$1.9 millions over January, 1947, and amounted to more than 20% of the operating revenues of all 19 domestic trunklines.

Despite a relatively poor tourist season in Florida, which accounted for a substantial portion of Eastern's winter traffic volume, EAL collected \$4.9 millions in passenger revenues in January, as against \$3.1 millions in the comparable period last year.

WAL Improves Balance Sheet

Although Western Air Lines incurred an operating loss of \$945,333 in 1947, the company ended the year with total current assets of \$3.5 millions, against current liabilities of \$2.1 millions, after starting the year with a working capital deficit of \$4,557,349.

Western's net gain resulting from the sale of its Denver-Los Angeles route and certain ground facilities and equipment to United Air Lines amounted to \$1,593,917, and this amount, together with \$344,301 in retroactive mail compensation received in 1947 but applicable to 1946, was credited to earned surplus, leaving with company with a net increase of \$999,884 in earned surplus after deducting the 1947 operating loss.

Improvement in WAL's financial position was attained, in part, through economies. Exclusive of depreciation, Western reduced its operating expenses last year by \$548,887, as compared with 1946, payroll alone being reduced from \$6,156,362 to \$5,776,911.

The company is negotiating with the Reconstruction Finance Corp. for an additional loan of \$2,000,000 with which to complete financing of 10 Convairliners. The proposed loan would be a continuation of the present RFC financing program, which has extended to WAL a \$4,500,000 line of credit, \$3,800,000 of which has been received by the company.

Martin's Highest Loss

Effects of the financial malady which last year beset most U. S. air carriers were reflected not only in the carriers' own annual reports (See table p. 44) but also in the reports of some of the aircraft manufacturers, who suddenly had found themselves with almost no one to buy their planes.

Top loss in the industry was that of the Glenn L. Martin Co., which reported a net loss of \$19,181,526 after applying tax carryback credits of \$20,707,232. The year previous, the company had shown a net profit of \$7,363,013.

The company's 1947 sales had amounted to only \$23,365,722, most of which was for military aircraft, and it ended the year with a backlog of only \$105 millions, some \$88 millions less than at the end of 1946.



Future HQ for IATA, ICAO—When completed, this is how the new International Aviation Building in Montreal will look. The structure will house the headquarters of the International Civil Aviation Organization and the International Air Transport Association. General construction contract for the building has been awarded to Anglin Norcross Quebec Ltd. Steel work of the project is well advanced and general construction will get underway immediately. The 10-story building is being erected on the east side of the Canadian National Railways' Central Station, as part of the Montreal Terminal Development. An airline terminal, complete with facilities for passenger handling, will occupy the ground floor.

Lockheed Loses \$2.4 Million

With no tax carryback to offset an unfavorable balance between its income and its expenses, Lockheed Aircraft Corp. ended the year 1947 with a net loss of \$2,471,695 after taking into account a capital gain of \$6,255,341 resulting from the disposal of certain fixed assets.

Sales for the year amounted to \$134,364,006, of which 53% came from military orders and the remainder from sales of Constellation transports to U. S. and foreign airlines. The backlog at year's end amounted to \$124,820,000, 84% of which was for military aircraft.

An unusually high inventory of over \$100,000,000 at the beginning of 1947 resulting from cancellation of orders for Constellations was reduced by almost 50% during the year.

TCA Follows U. S. Pattern

Trans-Canada Air Lines had a 19% increase in domestic operating revenues last year, as compared with 1946, but, as was the case with most U. S. air carriers, operating expenses rose to an even greater extent. Result: a deficit for the year of \$1,761,042 on TCA's North American operations.

Better was the showing made by the company's trans-Atlantic service, which it took over from the government on

May 1, 1947, and which showed a surplus of \$136,303 for the last eight months of the year. In this period, 15,815 passengers were flown across the Atlantic, including 1,422 immigrants brought under charter arrangements with the Province of Ontario. Mail totaled 152,179 pounds, air express 271,077 pounds and air freight 11,688 pounds. Revenues for the eight months were \$5,483,298, against expenses of \$5,314,898.

Domestically, TCA carried 427,967 passengers and 1,439,814 lbs. of express, and flew 1,232,237 mail ton miles. Domestic operating revenues were divided 68% from passengers, 25% mail and 3% cargo. Big problem of the company was development of non-passenger loads (only 58.5% of total available domestic ton miles were used last year), and G. R. McGregor, president, hoped to remedy this by organizing an air cargo service and by developing with the Canadian postal service a satisfactory basis under which first class mail can be carried by air where the public would gain through expedited delivery.

MAIL RATES

CAB's New Mail Pay Policy

In proposing a much-needed boost in mail pay rates for the "Big Five" carriers last month, (AMERICAN AVIATION, April 15, p. 14), the Civil Aeronautics

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Board took the opportunity to outline two new policy concepts of major significance in its mail rate philosophy.

Probably the most important policy development is the Board's concept of self-sufficiency, with the finding that American, Eastern, Northwest, TWA, and United are self-sufficient carriers. Self-sufficiency was defined as "that state in the carrier's economic development at which, under honest, economical, and efficient management, the volume and character of non-mail services required in the public interest may be fully supported by the revenues derived from such services under fair and reasonable rates to the public."

Seven Tests. A carrier was found to be self-sufficient under these conditions:

1. Sufficient advances in technology of air transportation to permit safe and reliable operation at costs commensurate with value of service.
2. Sufficient public acceptance of air transportation to permit its effective sale at reasonable price.
3. Sufficient value of service to assure large-scale demand for air transportation.
4. Sufficient availability of capital to permit development of maximum potential of air transport market.
5. Sufficient volume of operations to provide reasonable spread of overhead.
6. Sufficient density of traffic to permit high degree of utilization of plant and equipment.
7. Sufficient volume and density of traffic and appropriate operational characteristics to afford basis for economical utilization of most modern and efficient equipment.

CAB explained that the real test of self-sufficiency is related to existence of a reasonable opportunity for a carrier to sustain itself at a profitable level "without government subsidies."

Going hand-in-hand with self-sufficiency, is the second theory—that of comparability—articulated for the first time in the Big Five proposal. To measure comparability, CAB used a tabulation of basic operating characteristics, classified as size and volume factors, density and plant utilization factors, and operational factors.

On the basis of this tabulation, CAB believed it had foundation for a finding that the Big Five are comparable. A similar table of factors was used in discussing the adequacy for the past three years of the standard 45c per ton-mile rate under which the Big Four (Northwest excepted) have been operating.

The Board stated that at the 45c rate for year ended Sept. 30, 1947, "Eastern was the only carrier which reported a profit before Federal income taxes. It is believed that each of the four other carriers had at least as favorable an opportunity to earn reasonable profits as did Eastern during this 12-month period."

Principal differences among the five

carriers, CAB declared, are the result of "management decisions for which the stockholders should properly hold management responsible . . . It would be manifestly inequitable and contrary to the public interest, however, to use the mail pay as a means for equalizing the current earnings of carriers by establishing different individual mail rates, if on the basis of similar management approaches to the current operating problems, the opportunities for earning reasonable profits were approximately equal under uniform mail rates."

The Board pointed out that each of the Big Five, except Eastern, had made substantial personnel cuts between December, 1946, and September, 1947, while at the same time, each carrier's volume of service was increased. From this the Board deduced that "the difference in timing and extent of Eastern's expansion pattern as compared with the other four carriers is highly significant in that Eastern apparently has not reached a point of over-expansion which necessitated a cutback in personnel; and Eastern, as previously indicated, was the only carrier which reported profitable operations in 1946 as well as 1947."

Under the rates proposed, ton-mile yields for American, Eastern, TWA, and United (which have been receiving 45c) would amount this year to estimated 62.62c, 68.38c, 61.45c, and 59.70c, respectively. Northwest, which has been getting 60c, would receive an estimated 70.90c.

The carriers indicated willingness to accept the proposed rates on a temporary but not on a permanent basis. Reason for temporary acceptance presumably was to receive the additional cash promptly, since final action in reaching permanent decision will probably extend over a period of months. Objections to the permanent rates were to be filed by May 7.

\$2,107,000 for Northeast

Although final mail rates proposed by the Civil Aeronautics Board for Northeast Airlines involved a lump sum payment of \$2,107,578 in additional compensation dating back to May 1, 1945, Northeast filed exceptions to the award. The exceptions were overruled by the Board, however, and the rates took effect April 30.

Northeast had asked postponement of the decision on exceptions, the setting of a temporary rate pending final disposition of the exceptions, and a further hearing and oral argument on the exceptions. CAB found that all questions raised by Northeast had been adequately handled in its tentative decision, handed down last February.

It refused to reconsider its stand that costs incurred by NEA in its proposed but never consummated merger with Pennsylvania-Central Airlines be allowed as an operating expense.

CAB CALENDAR

May 24—Hearing in Board proceeding relating to Gander (Newfoundland) fares contained in joint Conference Resolution No. J. T. 12/081 (Agreement C. A. B. No. 1539 R 4) of IATA Conferences Nos. 1 and 2. Examiner Herbert K. Bryan.

June 14—Hearing in Pennsylvania-Central Airlines Mail Rate Case. (Docket 484). Postponed from May 15. Tentative.

June 23—Hearing on CAB's Investigation of Fare Differentials in Pan American Airways' Miami-San Juan, Miami-St. Thomas Tariffs. (Docket 3274). Examiner Frank A. Law, Jr.

Aviation Calendar

May 5-6—Air Transportation Education Conference, Purdue University, Lafayette, Ind.

May 12-15—Aviation Writers Association National convention, Commodore Hotel, New York.

May 18-20—Aircraft Industries Association Directors meet, Williamsburg, Va.

May 27-28—Michigan Aeronautic Conference, Lansing.

May 29-30—New England Seaplane Regatta, Lake Winnepesaukee, N. H. (Sponsored by AOPA).

June 1-6—All-Woman Air Show, Miami, sponsored by Florida chapter, Ninety-Nines.

June 6-11—SAE Summer meeting, French Lick Springs Hotel, French Lick, Ind.

June 8-10—Airport Management Conference, Texas A&M College, College Station. (Dean Howard W. Barlow in charge).

June 14-15—Airlines Medical Directors Association annual meeting, Royal York Hotel, Toronto, Canada.

June 16-18—Aero Medical Association 19th annual meeting, Royal York Hotel, Toronto, Canada.

June 17-18—Aviation Distributors and Manufacturers Ass'n mid-year meeting, Grand Hotel, Mackinac Island, Mich.

June 21-25—American Institute of Electrical Engineers summer meeting, Mexico City.

June 22-23—Annual Ohio State Aviation Clinic, Bowling Green State U., Bowling Green.

June 27-30—National Aeronautic Association annual convention, Hotel Radisson, Minneapolis.

June 30-July 1—National Soaring Contest, Elmira, N. Y.

July 2-9—Second National Air Tour Week sponsored by United Pilots and Mechanics Ass'n. (1101 Vermont Ave., N. W., Washington, D. C.)

July 16-24—1948 Road Show, ARBA, including airport construction equipment, Soldier Field, Chicago.

International

May 4—ICAO European-Mediterranean Regional Meeting, Paris.

May 17—ICAO Facilitation Division, Geneva.

May 19—ICAO North Atlantic Regional Meeting, Paris.

May 25—ICAO Council, Fourth Session, Geneva.

May 28—ICAO Legal Committee, Geneva.

June 1—Opening of Second ICAO Assembly, Palais de Nations, Geneva. (About three weeks.)

July 19-31—International sailplane contest, Samaden, Switzerland. (FAI sponsorship).

Divergent Views of Strike:

Douglass Letter Cites 'Folly' of NAL Management

March 4, 1948

Senator Pat McCarran
Senate Office Building
Washington, D. C.

Dear Senator McCarran:

Replying to your communication of February 25th, inquiring about National Airlines strike, I shall give you briefly what has happened in this matter insofar as the National Mediation Board has participated.

On September 13, 1945, a National Airlines pilot, named Maston G. O'Neal, Jr., cracked up one of the National's planes and was discharged by the company for the crash. Subsequently, the Air Line Pilots Association processed a grievance over this discharge through the System Board of Adjustment composed of two company members and two pilot members. The dispute was deadlocked by the System Board of Adjustment, there being no provision in the Air Line Pilots Association agreement for a method of breaking this deadlock.

After 20 months of unsuccessful effort of the parties to dispose of this dispute on the property, the matter became acute and came to the attention of the National Mediation Board, whereupon the Board had the parties meet in our offices in Washington and, on May 14, 1947, worked out an agreement between the parties that the Mediation Board would name a neutral to sit with the System Board of Adjustment to break the deadlock then existing. That agreement was reduced to writing and signed by the parties in our office.

Subsequently, the Mediation Board named a neutral who is an employee of the Civil Aeronautics Administration. Before the Board was set up, we became convinced that our naming an employee of the Civil Aeronautics Administration as a neutral was a mistake and we requested his resignation, which was given. We, thereupon, named an outside neutral that we felt had no connection that might be construed as being prejudicial to either party.

Following this, the management of National Airlines advised us they would refuse to participate in the proceedings unless we named the man originally suggested as a neutral and maintained that position until sometime in November 1947, when the Air Line Pilots Association set a strike date on the National Airlines.

Both Parties Adamant

We again requested the parties to come into our Washington office and attempted to get them to agree to go ahead with the breaking of the deadlock on the Maston G. O'Neal Case. The management requested, first, that three neutrals be appointed by the President of the United States to sit with the System Board of Adjustment to hear and dispose of this case. Finally, after being advised that the President would not participate in such matters, management agreed to take three neutrals to be appointed by the Mediation Board. The Air Line Pilots Association insisted on having only one neutral. Both parties were adamant in this respect.

The last afternoon of the meeting here in the offices, management advised the Board that unless their offer for three neutrals was accepted by the pilots that afternoon, it was withdrawn and there were no further offers on the part of management

ment to dispose of the Maston G. O'Neal Case. The Air Line Pilots Association was so advised of this declaration by management, and the meeting was concluded.

The Air Line Pilots Association withdrew its members from the service of the company at 11:00 P. M., Tuesday, February 3, 1948. On Wednesday, February 4th, we were advised by the carrier through their local attorney that they would agree to the appointment of one neutral to settle the O'Neal Case. The following day, the Air Line Pilots Association agreed over the telephone to go along with that arrangement. The Mediation Board wired the parties, asking them to be in here from Miami and Chicago on Saturday morning, February 7th.

At the appointed time, Mr. David L. Behncke, president of the Air Line Pilots Association, appeared and management was represented by their attorney here in Washington. Management's attorney at that time advised the Board that management's offer to settle the case as above stated had been withdrawn and the day before, had discharged all of their pilots and were advertising for other pilots to man their service. We were unable to convince management of the folly of such action or to induce them to go ahead and settle this case on the basis above outlined.

We direct your attention to a part of Section 10 of the Railway Labor Act, which reads as follows:

"If a dispute between a carrier and its employees be not adjusted under the foregoing provisions of this Act and should, in the judgment of the Mediation Board, threaten substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service, the Mediation Board shall notify the President, who may thereupon, in his discretion, create a board to investigate and report respecting such dispute."

The President was not advised of the pendency of this strike because the Board felt this strike did not substantially interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service

NAL Strike Documents

AMERICAN AVIATION herewith prints the latest in the series of documents pertaining to the National Airlines strike.

These are the complete text of the letter of Mar. 4 by Frank P. Douglass, chairman of the National Mediation Board, to Senator Pat McCarran who wrote to Judge Douglass for background on the strike, and the complete text of the letter by William I. Denning, attorney for National Airlines, written to Judge Douglass on Mar. 29 commenting on the Douglass letter.

Publication of the Douglass letter has been withheld for several weeks pending investigation by AMERICAN AVIATION of one aspect of the letter which did not seem to jibe with earlier facts in the hands of this magazine. This aspect concerned the resignation of Oscar Bakke, of the CAB safety bureau, as the first neutral appointed by the Mediation Board. A report on this magazine's investigation follows the texts of the Douglass and Denning letters.

Out of the maze of details, complex issues, charges and counter-charges, readers may find a few glimmers of enlightenment and draw their own conclusions.

and also because we were convinced that management would more than likely not participate in any hearings to ascertain the facts and, in no event, would abide by any recommendations of a fact-finding board. This conclusion was reached after considered opinion in the light of all that had occurred previously.

Trusting this gives you the information desired, I remain

Yours very truly,

FRANK P. DOUGLASS
Chairman
National Mediation Board

Denning Denies Implications Of Douglass' Statement

March 29, 1948

Honorable Frank P. Douglass
Chairman, National Mediation Board
Washington, D. C.

Dear Judge Douglass:

There has come to my attention a copy of your letter of March 4, 1948, to Honorable Pat McCarran, United States Senate, in reply to his communication inquiring about the strike of the pilots on National Airlines.

Certain paragraphs of your letter, when viewed disconnectedly from the factual background of the strike, convey implications which I am sure you did not intend.

Inasmuch as I was a Member of National Airlines System Board of Adjustment and also represented the Company in confer-

ences with the National Mediation Board, regarding the pilot controversy, I am taking the liberty of presenting the following comments:

(1) You state in your letter to Senator McCarran that—

"On September 13, 1945, a National Airlines pilot, named Maston G. O'Neal Jr., cracked up one of the National's planes and was discharged by the Company for the crash."

The foregoing conveys the impression that the accident was of a rather minor character. The facts show that in the afternoon of September 13, 1945, Maston G. O'Neal, Jr., First Pilot on National Airlines Flight 22, approached Tampa airport at a speed too high and too fast for landing

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and elected to go around again. On second approach he landed 1000 feet down a short runway at an excessively high speed in a tail high position, ground looped and skidded tail first off the end of runway. The plane came to rest with the nose on the seawall, and the remainder of the aircraft in the ship channel of Tampa Bay. The 14 passengers managed to escape injury, but the plane was completely destroyed. Mr. O'Neal was discharged as First Pilot because "his judgment and flight technique were below the standards necessary for an airline pilot." He was offered a non-flying position with the Company, which he refused.

(2) As stated in your letter to Senator McCarran, the Air Line Pilots Association processed a grievance over this discharge through the System Board of Adjustment composed of two Company members and two pilot members. This Board held hearings in Jacksonville on November 30, 1945, at which Mr. O'Neal testified and was also represented by an attorney of the Pilots Association. The Board became deadlocked on the issue whether Mr. O'Neal

Mediation Board on May 14, 1947. Pursuant to this joint request the Mediation Board appointed Mr. Oscar Bakke, an employee of the Safety Bureau of the Civil Aeronautics Board, Washington, D. C., as a fifth member to sit as a referee and the parties were so advised by a joint letter from the Secretary to the Board.

Some days after receipt of notice of Mr. Bakke's appointment I inquired as to the Board's procedure for setting a meeting date, and was informed that either party may arrange directly with the neutral therefor. Thereupon I contacted the neutral member by telephone, and it was verbally agreed on June 10th that hearings would begin in Miami on June 17, 1947. I then sent the following wire:

June 10, 1947

"Mr. William P. Kilgore
Air Line Pilots Association
3145 West 63rd Street
Chicago, Illinois

PLEASE WIRE ME AND REFEREE
OSCAR BAKKE WHETHER MEETING
OF SYSTEM BOARD ADJUSTMENT
COMMENCING MIAMI TUESDAY,
JUNE 17 IS SATISFACTORY.

Wm. I. Denning"

(4) The statement in your letter to Senator McCarran that the Mediation Board became convinced that naming of a neutral from the Safety Bureau of the Civil Aeronautics Board was a mistake, comes as a surprise to the Company. By letter from the Mediation Board dated June 17, 1947 the parties were advised that:

"We regret to inform you that Mr. Bakke has advised our Board that due to unforeseen circumstances he will be unable to fulfill his assignment as a referee in this case and the Board has accordingly accepted his resignation as a referee. Pursuant to the authority invested in the Board by your agreement signed in Washington, D. C., May 14, 1947, the Mediation Board now appoints . . . as a fifth member to sit as a referee."

Resignation Requested

To the foregoing I replied by letter dated June 28, 1947, and stated in part that—

"Since the receipt of your letter of June 17th I have learned to my utter amazement that the 'unforeseen circumstances' which caused Mr. Bakke to resign his assignment as referee was due to a 'request' that he resign because of objection to his appointment registered by Mr. David L. Behncke, President of the Air Line Pilots Association, and not to any lack of desire on his part to serve as a neutral member."

"The Air Line Pilots Association was the moving party in forcing National to agree to the appointment of a referee and for Mr. Behncke to cause the resignation of the referee so appointed naturally leads to our belief that Mr. Behncke will not accept any appointee of the Mediation Board unless and until the appointee is satisfactory to him."

"In view of all the circumstances I am directed by the President of National Airlines, Inc., to exercise the same right that Mr. Behncke was permitted to exercise and challenge the appointment of (the subsequent neutral) and his right to sit as a referee in the case of Maston G. O'Neal, Jr."

"Furthermore, I am directed to withdraw the request of National Airlines, Inc., for the appointment of a referee unless the original appointee is permitted to serve."

As set forth in your letter, the position of the Company with respect to the original neutral was maintained by the Company until November 1947, when the Air

Line Pilots Association set a strike date for November 12th, which at request of your Board was postponed to November 20th.

(5) The parties again came to Washington at your request and met in the Mediation Board offices November 17th, 18th, and 19th. You further state in your letter—

"The management requested, first, that three neutrals be appointed by the President of the United States to sit with the System Board of Adjustment to hear and dispose of this case. Finally, after being advised that the President would not participate in such matters, management agreed to take three neutrals to be appointed by the Mediation Board. The Air Line Pilots Association insisted on having only one neutral. Both parties were adamant in this respect. The last afternoon of the meeting here in the offices, management advised the Board that unless their offer for three neutrals was accepted by the pilots that afternoon, it was withdrawn and there were no



Frank P. Dougless

Letter starts controversy

should have been removed as First Pilot. There is no provision in the Air Line Pilots Association agreement for a method of breaking a deadlock, but it does provide that if the System Adjustment Board is unable to agree upon a procedure to break the deadlock, it shall have no further jurisdiction in the case. The deadlock became final in May 1946.

Strike Notice Served

(5) In connection with the reference in your letter to the appointment of a neutral by the National Mediation Board in May 1947, we wish to call attention to the following facts:

In May 1947, Mr. William P. Kilgore, Mr. Behncke's representative in Miami and a Member of the System Board of Adjustment, served on the Company a 24-hour notice of intention to call a strike. As a result Wm. I. Denning, a company member of the System Board, and Mr. Kilgore, signed a joint request to the National Mediation Board to appoint a neutral to sit as a referee on the System Board and reach a decision in the O'Neal case. It was agreed that the Board so constituted with the fifth or neutral member has jurisdiction in the O'Neal case and that its decision shall be final and binding upon National Airlines and the Air Line Pilots Association. This agreement was (as you stated) reduced to writing and signed by the parties in the offices of the National



William I. Denning

Offers detailed background

further offers on the part of management to dispose of the Maston G. O'Neal case. The Air Line Pilots Association was so advised of this declaration by management, and the meeting was concluded."

In connection with the foregoing we wish to add that the offer to accept three neutrals was withdrawn after Mr. Behncke left for Chicago. Although before he left the meeting he instructed the pilots "to keep on working," he refused, however, to officially call off the strike. Furthermore, the Company understood that Mr. Behncke was expected to return to Washington for a meeting in the Mediation Board on November 24th, but he did not do so insofar as we know.

Strike Underway

(6) Nothing further was heard from Mr. Behncke after the Mediation Board meeting on November 19th until he notified the Company by telegram received at 9:00 p. m. February 3, 1948, that a strike of pilots would go into effect at 11:00 p. m. that same evening. In connection therewith you state in your letter to Senator McCarran that—

"On Wednesday, February 4th, we were advised by the carrier through their local attorney that they would agree to the appointment of one neutral to settle the O'Neal case. The following

MANAGEMENT

day, the Air Line Pilots Association agreed over the telephone to go along with that arrangement."

I did offer for the Company to accept the appointment of one neutral to settle the O'Neal case but you informed me on the afternoon of February 5th that Mr. Behncke would not agree to the appointment of a neutral unless a labor matter involving another union was satisfactorily settled by the Company. I telephoned this information to the Company in Miami from your office late in the afternoon of February 4th. I reported to you that Mr. Baker informed me that he would not agree to that sort of proposal.

On the afternoon of February 5th you telephoned me that you had sent wires to Messrs. Baker and Behncke requesting their presence in the Mediation Board Saturday morning, February 7th, but I was not informed that Mr. Behncke has receded from his position.

If I had had information, on Thursday, February 5th, that Mr. Behncke was prepared to accept without condition the offer I had made and could have passed it on to the Company, I am confident the strike might well have been favorably influenced.

The same offer I had made to you on the morning of February 5th was verbally made on the same day by the Company to Mr. J. C. Christie, Mr. Behncke's representative then meeting with the pilots in Miami, with request that he transmit the offer to Mr. Behncke. When striking pilots informed Captain E. J. Kershaw, Vice President, Operations, that night that Mr. Christie had denied receiving such an offer, Mr. Kershaw again called Mr. Christie at the Columbus Hotel between midnight and 1:00 a. m. and repeated the offer.

New Pilots Hired

At this time Mr. Christie told Mr. Kershaw that he was down here from Chicago to help smooth this thing out and that he now thought he had something to work with. He was to call Mr. Kershaw at 9:00 a. m. that morning. He did not do so and so between 10:00 and 10:30 a. m. Mr. Kershaw called Mr. Christie. Mr. Kershaw informed Mr. Christie that he and Mr. Robert McCraith, Labor Relations Manager, were authorized by the Company to meet with Mr. Christie at the Columbus Hotel to sign a request for the appointment of a neutral. Mr. McCraith then took the telephone and reiterated and confirmed the offer to sign the request. Mr. Christie refused to meet the company's representatives. The next information the company received came in the Miami afternoon papers which quoted Mr. Christie as saying that National's offer to accept a neutral arbiter did not solve all of the problem. Thereafter, the company notified all pilots on February 5, 1948 of this and stated that—

"Your representatives are apparently interested in attempting to break the Company. They refuse to make an agreement even after the Company had expressed willingness to meet their demands.

"Under the circumstances the Company has no alternative but to engage new pilots to replace those who do not return to flight duty immediately. This step is taken with deep regret."

On February 6th the Company sent the following wire to all pilots who had not returned to duty:

"IN VIEW OF YOUR REFUSAL TO REPORT FOR FLIGHT DUTY AS DIRECTED, YOU HAVE VOLUNTARILY LEFT THE EMPLOY OF NATIONAL AIRLINES, INC. THEREFORE PLEASE RETURN ALL COMPANY PROPERTY IN YOUR POSSESSION BY TUESDAY, FEBRUARY 10, SO THAT YOUR FINAL PAY CHECK MAY BE COMPUTED AND ISSUED."

(7) With reference to the outcome of the meeting of the parties in your office on February 7th you state in your letter to Senator McCarran that—

Latest Strike News

David L. Behncke, ALPA president, has sent President Truman a letter on the National Airlines strike in which he points to possibility of curtailment of 500 schedules at eastern seaboard cities served by NAL. Behncke is understood to have referred to possibility that ALPA may ask all members to refuse to fly into any terminal served by NAL. Some observers interpret the move as an attempt to get strike issues back into mediation processes.

Meanwhile, at CAB prehearing conference April 23, NAL filed motion seeking dismissal of complaints filed by ALPA and the International Association of Machinists which asked CAB to require NAL to comply with provisions of Railway Labor Act or have certificates suspended. Counsel for the unions will answer NAL's motion by May 17.

"At the appointed time, Mr. David L. Behncke, President of the Air Line Pilots Association, appeared and management was represented by their attorney here in Washington. Management's attorney at that time advised the Board that management's offer to settle the case as above stated had been withdrawn and, the day before, had discharged all of their pilots and were advertising for other pilots to man their service."

As we recall the meeting on the morning of February 7th, no discussion of the controversy took place until after you had conferred for a short time with Mr. Behncke, after which you then conferred with the Company representatives, consisting of the undersigned, Mr. Everett Goulard and Mr. Jerome Rosenthal. Your opening discussion centered on the importance of settling the strike of mechanics and clerks. It was then we informed you that late the day before the Company had notified all pilots that inasmuch as they had refused to report for flight duty they were regarded as having voluntarily left the Company.

(8) You state with further reference to the meeting of the parties in your office on Saturday morning, February 7th that—

"We were unable to convince management of the folly of such action or to induce them to go ahead and settle this case on the basis above outlined."

We think the foregoing quotation implies that the Board attempted at the meeting to induce the Company to settle the case on the assumption that Mr. Behncke had definitely receded from the position that he would not agree to the appointment of a neutral unless a labor matter involving another union was satisfactorily settled by the Company.

While the offer to accept a neutral in the O'Neal case had been withdrawn, we were not aware at the meeting that Mr. Behncke had definitely receded from his previous position.

(9) With respect to the appointment of an Emergency Board by the President pursuant to section 10 under the Railway Labor Act you state that the President was not advised of the pendency of this strike—

"Because the Board felt this strike did not interrupt interstate commerce to a degree such as to deprive any

section of the country of essential transportation service and

"Also because we were convinced that management would more than likely not participate in any hearings to ascertain the facts and, in no event, would abide by any recommendations of a fact-finding board."

Under section 10 the only justification for an Emergency Board is where a dispute "threatens substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service." Consequently, your second reason would seem to be an assumption not within the purview of the statute. We sincerely trust that bias against the carrier was not intentional on your part.

It would appear that inasmuch as the controversy does not interrupt interstate commerce to a degree as to deprive any section of the country of essential transportation service the statutory basis for an Emergency Board does not exist, and consequently there is no basis for an assumption as to what the Company would or would not do if one were appointed. As we recall, it was Mr. Behncke who refused to accept the findings of the only Emergency Board proceeding in which he has participated.

In conclusion, it should be stated that although the position of the management of the Company has been, and still is, that the judgment of its operating officials should prevail in matters involving a pilot who has shown poor judgment, resulting in the destruction of a plane and the escape of passengers from death by a miracle, nevertheless, it is clear from the facts that the Company did agree several times upon a method of breaking the deadlock in the O'Neal case, as follows:

In May 1947, Mr. Oscar Bakke, an employee of the Safety Bureau of the Civil Aeronautics Board, was appointed by the National Mediation Board to sit as a neutral on the Company's System Board of Adjustment in the O'Neal case, and the parties agreed to be bound by his decision with respect to whether Mr. O'Neal should have been removed as a First Pilot. We were informed that Mr. Behncke caused Mr. Bakke's resignation to be requested.

Behncke Spurned Offers

In November 1947, the Company agreed to the appointment of three neutrals by the President of the United States, or by the Mediation Board. After three days of meetings in the Mediation Board offices Mr. Behncke spurned these offers.

On February 4, 1948, after the strike began at 11:00 the night before, the Company offered to accept one neutral to be appointed by the Mediation Board. This offer was communicated to the Mediation Board in Washington and also to Mr. Behncke's representative, Mr. Christie, then in Miami. The Company was informed on February 5th that Mr. Behncke declined to agree to the appointment of a neutral unless a labor matter involving another union was satisfactorily settled by the Company. On the same day Mr. Christie refused to meet with Company representatives.

Under all the circumstances the Company had no recourse other than to notify all pilots that new pilots would be employed to take the place of those who refused to return to flight duty, and regard all those who did not return as having voluntarily left the employ of the Company. It then began employing new pilots for those who did not return.

I am sending a copy of this letter to Senator McCarran for his information.

With assurance of my very high personal esteem, I am,

Sincerely yours,

WM. I. DENNING,
Attorney for
National Airlines, Inc.

AMERICAN AVIATION

The Mystery of Bakke

By WAYNE W. PARRISH

This is neither a defense of National nor another criticism of Behncke—who after all was acting in what he thought were the best interests of the pilots in protesting the appointment of Bakke. It is simply an attempt to straighten out what has grown into a major point of contention and discussion, despite the fact that it has little or nothing to do with the primary causes of the NAL dispute. Behncke can still be blamed for fostering an unnecessary strike, and National still is open to challenge for abruptly withdrawing from all negotiations after learning that Behncke had challenged the appointment of Bakke.

There was one aspect of the letter from Judge Douglass to Senator McCarran which required further investigation inasmuch as it seemed to be at variance with a fact known earlier to AMERICAN AVIATION. That was the incident involving the appointment of a neutral. On all other points of the Douglass letter, the Judge and National can speak for themselves—they involve charges, facts, opinions, etc., which readers can digest for themselves.

In his letter to Senator McCarran, Judge Douglass left the distinct impression that the National Mediation Board, on its own initiative and without any prodding, reversed its earlier decision to appoint Oscar Bakke, of the CAB Safety Bureau as the neutral to mediate the National dispute. This was at variance with a statement appearing in AMERICAN AVIATION for Mar. 15 that David L. Behncke, president of ALPA, had objected to the Bakke appointment.

It is an important point because after all of the long argument between National and ALPA, the two parties did sign a binding agreement on May 14, 1947, to permit NMB to appoint a referee and each party not only agreed to accept the referee but to abide by the result.

Judge Douglass implies in his letter that NMB didn't have much faith that National would abide by the ultimate decision, but this is hardly a judicial approach to the problem. The fact is that both National and ALPA did sign the binding agreement and to presume that either party would fail to abide by the referee's decision is at best a fatuous and presumptuous conclusion. If National in due course would fail to abide by the decision, it would indeed be guilty, but it is difficult to see how one could anticipate such a move on National's part that far in advance.

The mediation broke up long before there was even a hearing held. The reason it broke up was simply because the National Mediation Board suddenly changed its mind. It had designated Oscar Bakke, a man with a very excel-

lent reputation and who is a flight operations specialist for the CAB Safety Bureau, as the referee. Mr. Bakke was willing to serve and had begun preparations to call a meeting of both sides. Then he resigned.

Why? What happened?

This editor has talked twice with Judge Douglass and once with Mr. Bakke. This is an endeavor to give a report of as much as can be learned.

Douglass Disavows. In the first interview with Judge Douglass, the judge said he was out of the city during the in-and-out designation of Bakke and disavows any personal knowledge of what happened. He said he generally favored the use of trained government agency men as neutrals and indicated he thought such a man as Bakke was quite appropriate for this particular case. But he said the NMB on "sober reflection" decided not to have a CAA or a CAB man as a neutral in the National case. He said he had no personal knowledge that Behncke had protested the Bakke appointment.

Judge Douglass said he was aware of Mr. Denning's statements that it was Behncke who had protested and that it was Mr. Bakke, not himself, who should have the answer to Denning's statements.

This editor then interviewed Mr. Bakke in the CAB Safety Bureau offices and found him to be much more forthright in his answers than Judge Douglass had been.

"I see no reason why it should not be made perfectly clear," Mr. Bakke said, "that I was informed (by NMB) that I was not acceptable to the Air Line Pilots Association." He said he was not formally requested to resign as the neutral, but that, having been informed that he was unacceptable to one of the two parties in the dispute, he could hardly have had any other alternative but to resign, which he did. He had been willing, and even anxious, to mediate the dispute.

It should be stated here that at no time had there been any reason to feel that an objection was made to Mr. Bakke as an individual. The objection, it appears, was for the appointment of any CAA or CAB staff member.

When this editor then informed Judge Douglass of Mr. Bakke's direct statement, the Judge repeated his earlier statement that he was out of the city at the time and hence had no personal knowledge of the matter, but then explained in much more detail and (for the first time in a forthright manner) that when any party in a mediation dispute objects to the neutral designated by NMB, then NMB informs the neutral of the objections.

"Mr. Denning says it was Mr. Behncke who objected to Mr. Bakke as a neutral,"

Judge Douglass said, "and Behncke may have done so. It's logical to assume that if anybody did object, it was Behncke rather than Baker who objected."

This editor can only conclude after talking with the various parties that ALPA, in fact, did object to the appointment of Oscar Bakke and that after signing an agreement to accept a neutral, it did not even contact the neutral. It is clear to this editor that the National Mediation Board did not, on its own initiative, suddenly change its mind about the appointment of Mr. Bakke, and that the objection to Bakke could have come from only two sources. And the Judge told this editor that it "was logical to assume" that it was Behncke, not Baker, who objected—but the Judge disavows any personal knowledge of what happened.

There's only one point at issue. That is, that if Bakke had remained as the referee, the dispute could have been settled in all likelihood. In any event one cannot assume before the verdict that either party would refuse to stand by the result.

Readers can read all sides—and believe what they want to believe.

Strike Ties Up Boeing

More than 13,000 mechanics, members of Aero Mechanics Union of the International Association of Machinists, staged a strike at two Boeing Aircraft plants in Seattle on April 22, stopping all production on military and commercial aircraft. The strike, first in Boeing's 32-year history, followed company rejection of a 30c an hour wage demand.

The strike was not sanctioned by the Union's international headquarters in Washington. H. J. Gibson, local president, said he had received instructions from International President Harvey Brown to tell his men to stay on the job.

Production was stopped on some 300 planes valued at \$200,000,000, including the XB-47 jet bomber, 215 B-50 Superfortresses, 56 Stratocruisers, 28 C-97 Stratofreighters.

AAXICO Suspends Service

After two and one-half years of operation during which it flew more than 100,000,000 passenger miles as a non-scheduled passenger carrier, American Air Export & Import Co. (AAXICO Airlines), of Miami Spring, Fla., last month announced it was suspending operations "indefinitely," and was offering to sell or lease all of its equipment, consisting of four DC-3's, 32 spare engines and a large stock of spare parts.

The company has applications pending before the Civil Aeronautics Board for operation of a "second-class" air service between Puerto Rico and the New York area and Miami and New York, as well as for operation of all-expense and group-conducted air tours in the U. S. and in the Caribbean area.

PERSONNEL

ADMINISTRATIVE

James M. Landis, former chairman of the Civil Aeronautics Board, has been elected a director of Colonial Airlines. He is also a director of the Postal Telegraph Co. and chairman of the board of the Middle East Co.

John W. Newey, who was granted a six-month leave of absence from United Air Lines last December to accept an assignment representing all the airlines in negotiations on joint airport matters on the Atlantic Coast, has resigned as UAL v. p.-finance. **Curtis Barks**, director of property, has been acting as assistant to UAL President W. A. Patterson in coordinating the company's finance administration.

Fred A. Miller has resigned as v. p. of The Flying Tiger Line to join D. W. Mercer, operator of a charter service at Lockheed Air Terminal. **George Cussen**, general traffic manager, assumes control of FTL's traffic department.

Frank Stirling has been appointed regional manager of KLM Royal Dutch Airlines for the North American Division. He joined KLM as Gander station manager in June, 1946.

David W. Harris, formerly manager of industrial relations at TWA's Kansas City overhaul base, has been advanced to director of domestic industrial relations succeeding **John Keil**, who was made assistant to the vice president. **Richard W. Wilson**, formerly assistant to the v.p., has become central region manager of industrial relations, succeeding **Richard Murray**, the latter having been granted a leave of absence. Replacing Harris in the Kansas City job is **Tracy Brooks**, formerly a personnel engineer with Consolidated Vultec in San Diego. **Frank Gump**, formerly asst. dir. of industrial relations—international, has been named manager of industrial relations of the maintenance base at New Castle, Del.

—OPERATIONS-MAINTENANCE—

Hendrik K. de Graaf has been named regional operations manager of the North American Division of KLM Royal Dutch Airlines. He was superintendent of KNILM's Pacific Division at Los Angeles until the merger of KNILM and KLM.

M. B. Cahill, aeronautical engineer and veteran airline pilot, has been appointed to newly-created position of engineering pilot for Northwest Airlines. His responsibilities will cover type and production acceptance tests of new aircraft including the Martin 2-0-2 and Boeing Stratocruiser. He joined NWA as a co-pilot in 1938, became a test pilot in 1942, and engaged in special engineering projects before returning to line flying in 1945.



Karl Hughes

Directs UAL's Tours and Agencies

John E. Harlin, 16-year flight veteran with TWA, has been appointed staff superintendent of flying for company's international operations, with headquarters at Wilmington, Del. Harlin, who joined TWA in 1933 as a co-pilot, has been serving as operations manager of the European region with offices in Paris.

Russell Field, a member of TWA's engineering department the past three years, has been appointed director of operational planning.

Stan Gluck, formerly in charge of dispatch for Pan American Airways on Wake Island, is now assistant station operations manager for the company at Los Angeles.



Hendrik K. de Graaf

KLM Regional Operations Manager

Dick B. Petty, United Air Lines flight manager at Denver, has been confirmed by the U. S. Senate as a brigadier general in the Air Force Reserve.

John J. Maher, Jr., formerly assistant chief agent of Eastern Air Lines in Hartford, Conn., has been appointed station manager in Wilmington, Del., where service was inaugurated last week.

John H. Kinkade, for the last three years manager of the International Air Terminal at Manila, has been appointed chief operations liaison officer for Philippine Air Lines at Oakland Municipal Airport.

John C. (Jerry) Williams has been transferred from chief agent for Continental Air Lines at Hutchinson, Kan., to station manager at Lawton-Fort Sill, Okla.

—TRAFFIC & SALES—

Karl Hughes, veteran of 15 years with UAL's traffic and sales department, has been named director of the company's foreign, tour and agency department, with headquarters in Chicago. He succeeds **L. B. Kinports**, who has accepted a position as director of agency and interline sales for Northwest Airlines.

G. E. Coon, 18-year veteran with American Airlines, has been named director of sales for the company's southern region. He will continue to serve also as executive assistant to the regional vice president.

A. S. Aldridge has been shifted from manager of Braniff Airways' passenger service department to position of manager of agency, interline, and foreign sales department, succeeding **Douglas R. Wood**.

Howard P. Van Boheman, formerly manager of traffic procedures for American Overseas Airline in New York, has been named district sales manager in Iceland, with headquarters in Reykjavik. He replaces **Kenneth Hall**, who resigned to accept another position in London.

Howard Goodrich has been appointed district manager for TWA at Louisville, replacing **Parks Gilmore**, who was transferred to the new traffic office at Fresno, Calif.

F. R. Schnettler has been appointed assistant district manager in charge of international operations for TWA at Chicago. He succeeds **E. A. Rosser**, who was promoted recently to superintendent of reservations.

Ray Dumm, a 13-year veteran with American Airlines and recently sales representative at Long Beach, has been appointed manager of conventions and sports activities for the Los Angeles district.

Richard A. Catoni, who has been with Pan American Airways since 1941, has been named to head PAA's new Minneapolis district office, while **Axel Mikkelsen**, who has been in the company's Chicago office as sales representative for past three years, has been designated manager for the St. Louis office.

Telbert A. Rice has been appointed assistant district sales manager for Pan American Airways' New York district office, and **Prescott S. Bush** has been named New York district reservations manager. Rice has been with PAA since 1940 and recently was district manager for the United Kingdom and Eire with headquarters in London. Bush has been with PAA since 1943; his last assignment was in Rio de Janeiro as reservations adviser to Panair do Brasil.

Marian Niskern has been promoted from traffic agent to traffic representative in Delta Air Lines' Chicago city ticket office. She has been with Delta the past three years and before that was with AA for two years.

Harold Hale, formerly district traffic manager for Monarch Air Lines in Albuquerque, has been appointed system assistant traffic and sales manager, with headquarters at Denver. The Albuquerque post has been filled by **Virgil L. Alvey** previously station manager there.

James T. Kilbreth, Jr., formerly assistant to the traffic and sales manager for EAL in New York City, has been appointed traffic and sales manager for the company in Louisville.

Robert P. Hubley has been named assistant traffic manager in charge of stations for Southwest Airways, succeeding **J. L. Barbour**, who was appointed ground operations manager.

Raymond R. Costello, former regional sales manager for Southwest Airways in San Francisco, has been made assistant traffic manager in charge of sales; **Robert M. Stevens** has become regional sales manager in Los Angeles.

Charles H. Miller, former general manager of Republic Aviation Corp., has been elected v.p.-sales of The Glenn L. Martin Co. He will have charge of all military and commercial sales of the company.

George Kraigher, formerly operations manager for Pan American Airways' Western and African divisions, is now associated with the export-import firm of Ambrie, Youngs & Associates, Inc., 52 Vanderbilt Ave., N. Y. C.

Charles J. Frederick has resigned his post as CAB Examiner to engage in the practice of administrative and labor law in Washington.

May 1, 1948

Airline Commentary

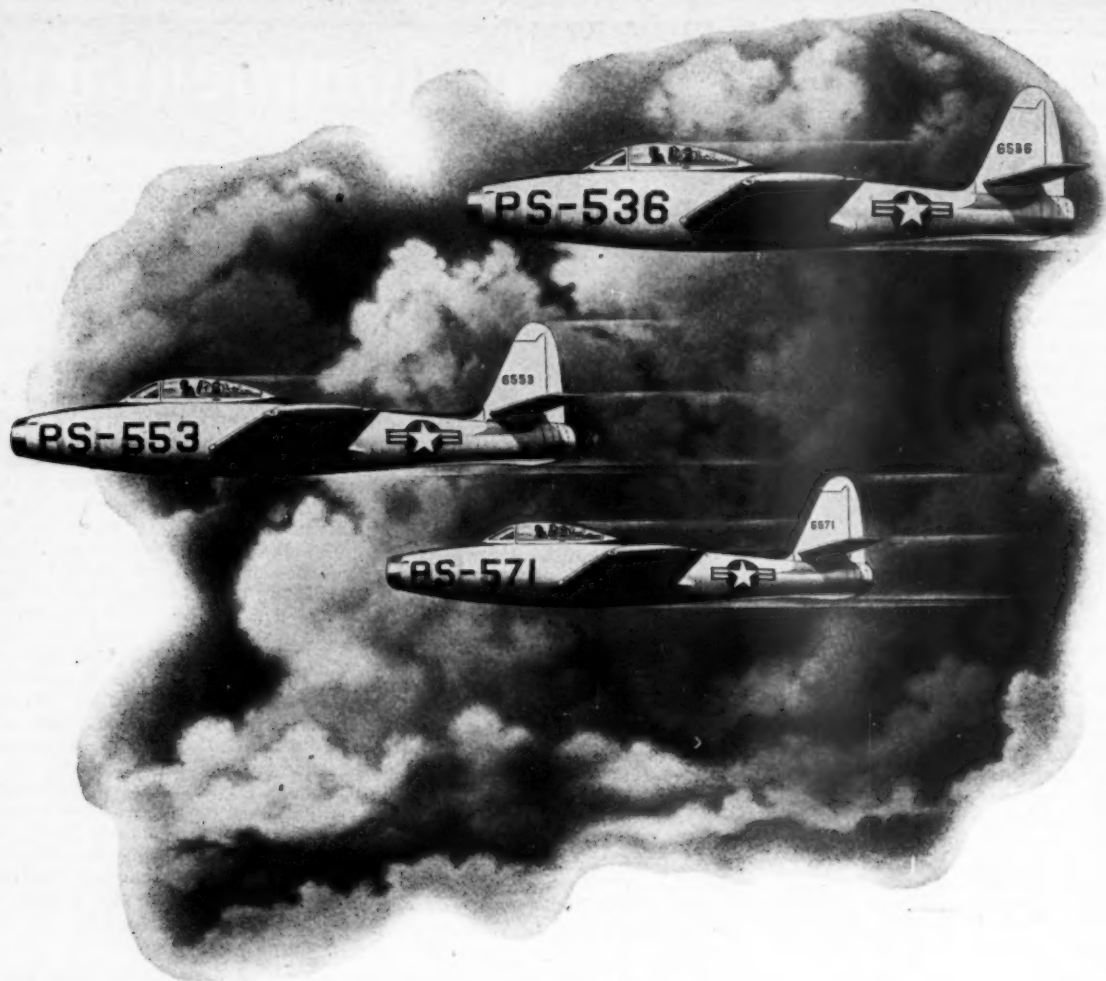
By ERIC BRAMLEY

HERE IS a pilot who has written an article that really rings the bell . . . He's Capt. F. E. W. Smith, Trans-Canada Air Lines, a good union man (Canadian Air Line Pilots Association), and he's written a piece for the union publication on "Can We Sell Flying?" . . . Here are some of the things he has to say: "There have been labor organizations which have sought to safeguard themselves against unemployment and hard times by forcing the employers to double staff. This may be excusable in occupations which have reached or passed their maximum development. But aviation is young—at the very start of its growth—and our job security lies in expansion. We would be unwise if we did not direct our powers to encourage flying's normal growth. If it doesn't grow well, we will be the first affected. We must be our own salesmen!" . . . He also has this to say: "Our sole concern as pilots is, of course, the proper operation of our assigned flights. We are not expected to worry over sales and promotion—but while it is not our business, it is very much our concern. We are in a profession which anticipates a great deal of technological change within the next few years and this, unless accompanied by a great upswing in traffic, will affect all but the most senior. Faster aircraft carrying greater loads can only mean fewer pilots to handle existing business. Therefore, without a timely and substantial increase in traffic, most of us will suffer disappointment . . . As pilots we can do a great deal individually to sell aviation. Primarily we can operate our own trips with an eye to their sales value. By seeking to minimize and avoid rough air, we will counteract a common cause of passenger dissatisfaction. Whatever scenic value our routes possess can be displayed on fine days. Pilot bulletins should never be forgotten . . . We should talk to and get to know our clients. Personal contact is of the strongest sales value. If in doing these things we are able to ensure our passengers' enjoyment, we will accomplish a lot of selling." . . . Capt. Smith further points out that pilots are often in a position to observe reservations mix-ups, bad station handling, etc., "and can often recommend permanent solutions" . . . He further suggested that CALPA "could cooperate with our companies to help them in their sales" . . . It's a darned good article . . . Not only pilots should read it, but ground personnel could well adapt some of the philosophy to their own jobs . . .

Couple of weeks back we took a little jaunt to Mobile and New Orleans with Capital Airlines to celebrate opening of its service to those cities . . . It was a well-handled trip and the company, and President "Slim" Carmichael in particular, deserve a lot of credit for the good impression made in the new cities . . . Of course the trip had its humorous spots . . . The highlight was the banquet in Mobile . . . Slim Carmichael was to be introduced by Judge Ben Turner who, we will have you understand, suh, is a southern gentleman of the old school, and an orator who will stand with the best of them . . . The judge rolled the audience in the aisles with his antics . . . He pulled out all the stops, describing how Mobile was washed by the beautiful waters of the Gulf as they came in through Mobile Bay etc., etc. . . . He worked his audience up to a pitch, and then put on the clincher: "I now give you Mr. Carmichael, the president of American Airlines" . . . After the audience picked itself up off the floor, Slim, who has enough troubles with Capital without taking on American, talked his way out of the situation . . . But the judge was the talk of the trip . . .

We're told that Capt. John Carroll, of TWA's international division, uses his own airplane to commute to work . . . Whenever he's scheduled to take a trip out of Wilmington, Del., he hops in his AT-6 up there in New Hampshire, where he lives, and arrives at the TWA base in short order . . . However, we wonder if he, like the airlines, sometimes has a weather problem . . . That sounds like a long train ride . . .

Schedule reliability: American Airlines' Baltimore station reports that only one trip out of 455 has been delayed beyond allotted ground time since the first of the year . . . Operations manager Alec Otto and his fellow workers seem to be on the ball . . .



PROVEN IN SERVICE...

Worthy successor to the mighty THUNDERBOLT... the new P-84 THUNDERJET now being flown by two famous groups of the U.S.A.F. ... the 14th, based at Dow Air Force Base, Bangor, Me., and the 20th at Shaw Air Force Base, Sumter, S. C., are daily demonstrating the high efficiency of this, the latest jet fighter on active service. ¶ Soon other groups will be equipped with this 600 MPH THUNDERJET. We are indeed gratified that the close co-operation between the U.S.A.F. and REPUBLIC's skilled design and production personnel has resulted in the development of another great combat plane for the security and protection of our nation.

REPUBLIC AVIATION CORP., FARMINGDALE, L. I., N. Y.

"This Is the Year of the Thunderjet"



REPUBLIC AVIATION

Makers of the Mighty Thunderbolt • Thunderjet • XF-12

Simplicity Needed in Aircraft Accessories

By DAVID SHAW

A significant plea for simplicity in the design of aircraft accessory systems was made by TWA's chief engineer, L. R. Koepnick, at the mid-April aeronautic and air transport meeting of the Society of Automotive Engineers in New York. Koepnick said that less than 5% of his company's mechanical delays are due to airframe and flight control troubles, while more than 95% are attributed to complex electrical, hydraulic, ventilating, fuel, ignition and other systems.

"We have entered an era," Koepnick stated, "where aerodynamic and structural problems are in the minority and in fact insignificant. The systems which were of no consequence to the early pioneers in aviation . . . have now grown to such proportions that they are the primary cause of all service troubles and difficulties."

To compare the complexity of old and new aircraft types, Koepnick said that during a recent six month period TWA's DC-3's averaged 122 flying hours per mechanical delay; Boeing 307's averaged 44 hours; and Constellations 60 hours. Translated into miles per passenger per delay the figures were 20,700 miles for DC-3's, 17,200 miles for 307's and 16,800 miles for Constellations.

Koepnick blamed the airline industry's trouble with accessory systems not only on manufacturers but on government regulatory agencies and to a considerable degree directly on the airlines. He stressed that systems as a rule do not receive the planning and proving which goes into design of the basic airframe, with the result that airlines have been buying good airplanes crowded with impractical and troublesome equipment.

As an example of good system planning, Koepnick pointed to the Constellation hydraulic system which was mocked-up in detail and tested for every conceivable source of trouble before it was installed on production models of the airplane, with the result that it caused less trouble than expected and less than simpler systems on other planes.

"It is imperative," he said, "that the new large airplane designed by any manufacturer have its electrical system developed in exactly this manner. In fact all major systems should go through such a process of development. Admittedly this appears to be an expensive and time consuming method of development, but it is certainly far cheaper and far less time consuming than to rely on the airlines to develop these systems after the airplanes have been produced in quantity and delivered."

"It is unfortunate," Koepnick stated, "that . . . the airplane structure is gen-



Simplicity?—Hailed for its "simplicity," this is the postwar cockpit pilots see as a DC-6 speeds through space. Complex aircraft accessory systems are blamed for major portion of mechanical delays.

erally completely designed, a prototype practically completed, and production models are actually in the production line before certain items of equipment are completely jelled, or before sufficient information is available to the system engineer to determine all of the requirements."

He added that the era of buying airplanes for availability rather than excellence is now definitely past and airlines will make future purchases entirely on the basis of the excellence of the product.

Coordinated Planning. Flight control systems, Koepnick said, give relatively little trouble primarily because such systems are designed into the airplane, rather than added to it, by the same engineers who lay out the structure. Only when all systems receive the same detailed and coordinated planning can practical simplicity be achieved.

As an example of good planning and proving, Koepnick said that in the development of the twin-quad transport (Model 34), Beech Aircraft Corp. offered a cash reward to any employee who could suggest a test which would cause any kind of failure in the gear box or propeller drive components. He also mentioned an airline which has offered a five dollar a month pay raise for each electrical relay which can be eliminated from one of the newer airplanes.

In assessing a part of the blame on the airlines, the TWA engineering chief emphasized that standardization among operators would cut the cost and improve the quality of the manufacturer's

work. He cited numerous examples of petty and needless differences in airline requirements, and other examples of how airlines have required items such as automatic oil temperature regulator shutter controls which later were eliminated in favor of manual controls.

He mentioned the Constellation fuel injection system as an example of complication by government regulation. In changing to fuel injection as a possible means of overcoming induction system fires, carburetors were not removed (re-named master control units) and there was added to each engine: (a) 2 fuel injection pumps, each with nine cylinders; (b) a synchronizing mechanism; (c) 18 small diameter rigid lines; (d) 18 fuel injection nozzles; and approximately 100 threaded connections which must hold gasoline under extremely high pressure.

The result, Koepnick said, was a long period of trouble during which approximately half of all Constellation delays were due to fuel injection malfunctioning, plus the permanent result of increased maintenance time and costs. His implication was that the original trouble was not sufficiently serious to justify the added complexity.

Koepnick concluded his SAE paper with a number of recommendations, among them that there be a greater exchange of engineering talent between airlines and manufacturers; that rigid specifications allowing for cost, weight and performance be drawn for all systems; that systems be segregated within the airplane for safety and accessibility; that all systems be tested and subjected to customer approval before an airplane goes into production; and that extended prototype test flying be undertaken as a means of shaking down new systems.

Accessory Planning Needed

Half the cost of an airplane now is in accessories and the accessory manufacturer can easily become the No. 1 bottleneck in the next war, J. C. Garrett, president of AiResearch Manufacturing Co., told the manufacturing panel at the recent meeting of the California Air Policy Commission in Los Angeles. Garrett emphasized that the accessory manufacturer now has to be considered in the very beginning of any aircraft production program.

The AiResearch executive said his company spent \$800,000 to \$1,000,000 designing and developing the expansion turbine used to cool cockpits of the postwar high speed planes, and that the armed services contributed no part of the money. "When we started developing it the folks didn't seem to think it was needed," Garrett commented.

NEW PLANES

The 'Aero Commander'

An all-metal, 5 to 7-place, twin-engined airplane called the "Aero Commander" has been developed by the Aero Design and Engineering Corp. of Culver City, Calif. with the idea of presenting an aircraft with airline qualifications, but having low operating and maintenance costs. The ship now undergoing Civil Aeronautics Administration certification tests, is designated to sell at less than \$25,000.

Powered by two Lycoming 190 hp. engines, the Aero Commander has a high speed of 181 mph. and cruising speed of 165 mph. at 75% of power, giving it performance similar to the Douglas DC-3. Lycoming now has a 250 hp. engine in process and when it becomes available its installation will be optional. With the more powerful engines and controllable pitch propellers, it is calculated that Aero Commander's cruising speed will be increased 15 mph. or more.

With fuel consumption of 18 to 20 gals. per hour, the Aero Commander's fuel capacity of 115 gals. gives it a range of approximately 1,000 miles.

Design of the Aero Commander started three years ago, when a group of former Douglas Aircraft Co. engineers and employees, who foresaw the need of a small, twin-engined utility plane, organized the Aero Design and Engineering Corp. T. R. Smith, who had been project engineer on the Douglas A-20, was elected president of the company. R. T. Oelschlager and A. H. Moore, also former Douglas employees, were elected vice presidents and Paul A. Leaman, former owner of the Culver City Airport, was named secretary-treasurer. Construction of the prototype plane was started 20 months ago.

The former Douglas engineers drew on their experience to design a simple compact structure with precision care. Their objectives were to design out costly parts, such as castings and forg-

ings, to use standard easily obtained accessory items and to arrange components for ease of maintenance.

"With this airplane all you need is a wrench and a screw driver to determine if the engines are O.K., not a \$4 an hour A & E mechanic," said Smith.

At the same time, during construction of the prototype, the company built production templates, form blocks, detail tooling and assembly tools so that it can go into production immediately after the craft is type certificated.

The Aero Commander is designed as an executive plane to carry personnel or light cargo, for operation on small feeder lines, for special charter work or aerial ambulance service, for aerial survey work, and for individuals who want to own a deluxe type craft with most of the features found in airliners. It has tricycle gear, luxurious interior arrangements, sound-proofed cabin, large entrance door requiring no external steps and a separate baggage door. It has full instrumentation.

"The Aero Commander price, seating arrangement and range fit the needs of corporations desiring flexible transport anywhere and anytime," said Smith. "The plane also should be just about right for feeder-line operators serving small areas not on scheduled airlines, and airport operators needing a utility craft for charter work and similar services. With our plane, you can go as fast and as far as a DC-3 and yet the cost will compare favorably with a single-engine four-place ship. You'll consume 18 or 20 gals. of fuel an hour as compared to nine or 10 in the single engine ship, but you'll go almost twice as far."

The Aero Commander is a high wing full cantilever monoplane. Wing span is 43 ft. 10 in.; length overall, 32 ft. 6 in.; height overall, 10 ft. 6 in.; tread main gear, 12 ft. 4 in.; wing area, 240 sq. ft.; gross weight 4,200 lbs. (4,800 lbs. with Lycoming 250 hp engines); empty weight 2,600 lbs.

Performance is as follows: high speed,



Aero Commander—New 5 to 7-place, twin-engined, high-wing monoplane built by the Aero Design and Engineering Corp. has high speed of 181 mph, cruising speed of 165 mph, range of approximately 1,000 miles and is planned to sell at less than \$25,000.

92 ton feather

The U.S. Navy's Lockheed Constitution (big brother of the famed Lockheed Constellation) weighs 92 tons—twice as much as the average airliner.

Yet its five-ton, dual tandem landing gear is so finely articulated that the plane can land light as a feather.

So light, in fact, that there's a signal in the cockpit to inform the pilots when the prerotating wheels touch the ground during a landing.

The gear spreads the weight of the Constitution over such a large area that the airplane can operate from any normal CAA Class 4 airport without strengthening or lengthening of runways.

More than 50,000 engineering man-hours went into Lockheed's development of the remarkable gear.

Such pioneering in design and research, in combination with resourceful production techniques, keeps Lockheed well in the forefront of aviation.

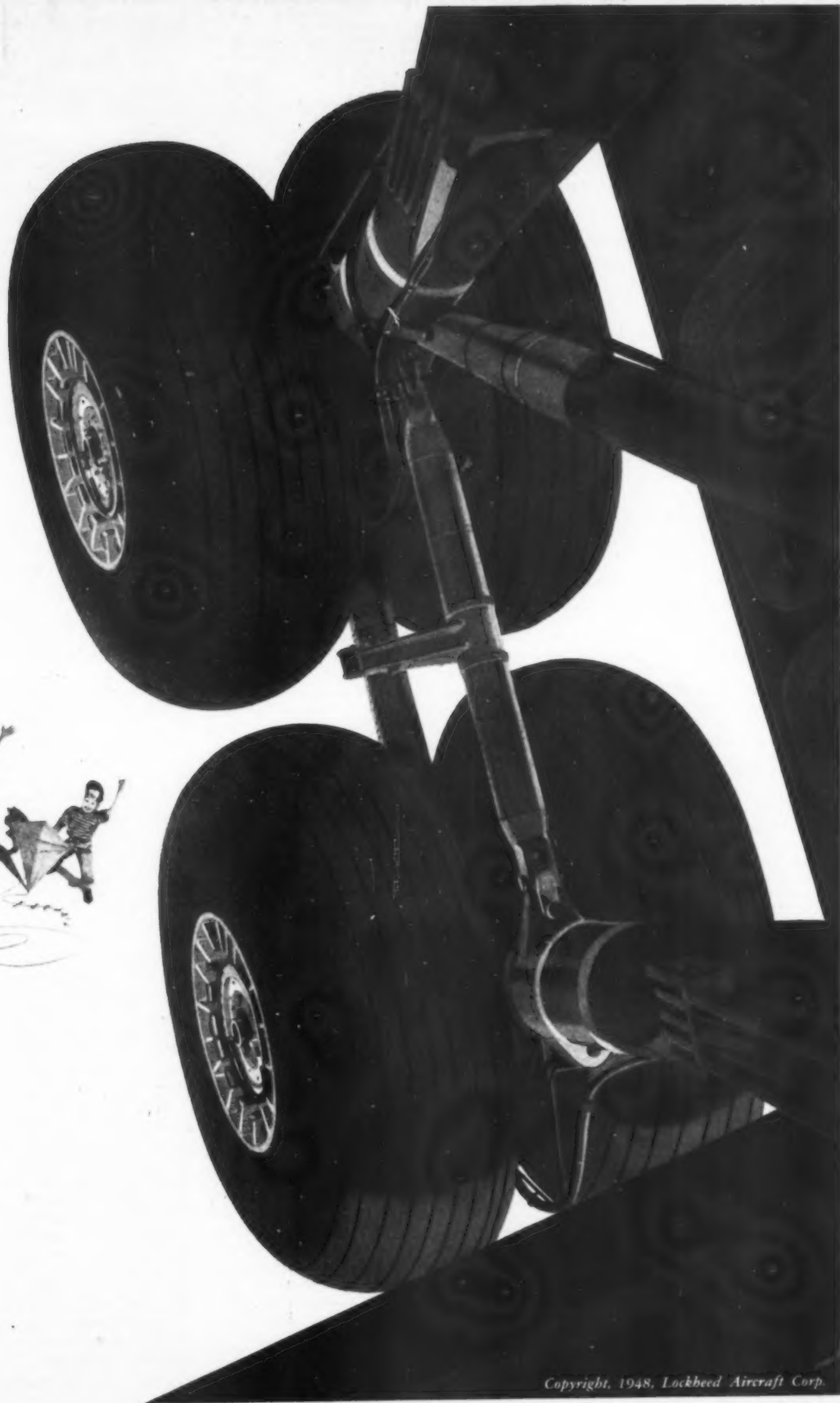
Lockheed Aircraft Corporation, builders of the U. S. Navy P2V Patrol Bomber, holder of the world's long-distance non-stop record (11,236 miles); the P-80 Shooting Star, the U. S. Air Force's standard jet fighter; and the Constellation, world's leading transport.



look to lockheed
for leadership



Lockheed Constitution
AMERICAN AVIATION



Copyright, 1948, Lockheed Aircraft Corp.

OPERATIONS-MAINTENANCE

sea level, 181 mph; cruising speed, sea level, (75% power) 165 mph; service ceiling, two engines, 24,400 ft.; service ceiling, one engine, 8,700 ft.; climb, sea level, full load, 1,450 fpm; stalling speed, flaps down, 57 mph; range, approximately 1,000 mi.; maximum gliding speed, 280 mph.

Aero Design expects to go into production in time to have 10 planes ready for delivery in March, 1949.

Amphibian for Commuting

A new twin-engined amphibian said to offer potentialities for use as an executive transport or for air commuting service is being test-flown by the designer and builder, Meredith Wardle, of Silverside Heights, Wilmington, Del.

Designated Model W-6 Aqua 1, the new amphibian is powered by two 125 hp Lycoming engines driving fixed-pitch Sensenich propellers. With a gross weight of 3,600 pounds and 1,400 pounds useful load, it can be adapted for either four or six places. Cruising speed is 125-130 mph at 75% power, sea level. The ship has a low landing speed of 50 mph.

The cabin has 192 cu. ft. of space unobstructed by bulkheads.

Wings are of all metal construction, with only seven ribs per panel. The upper and aft portions of the hull also are of metal, while the hull bottom and nose section are of a plastic bonded plywood. Aluminum gye-beams in the major wing-to-hull framework assembly, including twin columns running diagonally forward from the wing main spar to the hull, give the ship a highly crash-resistant cabin structure. Provisions are made for a tricycle retractable landing gear, the two rear wheels folding into the underside of the stub sea-wings, and the nose wheel retracting into forward section of the hull.

Wardle, the designer, formerly was with the engineering departments of Curtiss-Wright at Buffalo and Bellanca Aircraft at New Castle, Del. He recently completed a shakedown flight to Miami and return in the Model W-6 Aqua I. It is anticipated that on a production basis a list price of \$15,000 to \$18,000 can be achieved.

French Plane in Production

The SO 30R-2 Bellatrix, a 30-passenger twin-engined transport, is now in production at Societe Nationale de Constructions Aeronautiques du Sud-Ouest in France. It will be used by Air France.

Powered by two Gnome-Rhone 14R33 radial engines of 1,730-hp each for take-off, the plane can accommodate a maximum of 30 passengers in three compartments of nine, six and 15 seats respectively. Alternate arrangement provides 16 berths. Cargo compartments can hold 4,300 lbs.

Maximum speed at 19,700 ft. is 342 mph; cruising speed at same altitude, 255 mph; ceiling, 29,200 ft. Range is 620 miles with 30 passengers and full



Commuter—Potentialities as an executive transport or commuting plane are claimed for this twin-engined amphibian being test-flown by its designer and builder, Meredith Wardle of Wilmington, Del. On production basis, list price of \$15,000-\$18,000 is expected for the craft.

freight load, or 1,240 miles with 30 passengers and 2,100 lbs. of freight.

OPERATIONS

2-0-2's Revenue Potential

One feature of the Martin 2-0-2 twin-engine transport which Northwest Airlines has found much to its liking is its greater revenue potential (lower operating costs and higher payload), as compared to the DC-3's it replaced. Now the outlook is that this potential will be improved further.

The improvement will result from a recent CAA action approving a "dry" gross weight rating of as much as 39,100 pounds for the 2-0-2, instead of the former rating of 38,000 pounds. This additional 1,100 pounds of useful load can be utilized to give longer range to flights, to increase the payload, or a combination of both.

Based on extensive structural tests as well as a study of the 2-0-2's performance on Northwest's routes, the 39,100 pound rating applies to operations without water injection. When NWA's fleet of 2-0-2's have been changed over to "wet" engines using water injection, the performance should be improved still further. The 10 Martin 2-0-2's the airline now has in service are being so converted, and the 15 additional planes now being turned out for NWA at the Martin plant are being equipped with "wet" engines.

DC-6's Back with Braniff

After completion of 150 items of modification, many of which were not mandatory, Braniff Airways in mid-April began returning its DC-6's back into service. First one was put on a daily flight from Dallas to Chicago via Kansas City, and a return non-stop from Chicago to Dallas. Two more round-trips were added on this route on April 19, and extension of DC-6 service to San Antonio and Houston was scheduled for May 1. In addition to these services, Braniff was planning to use some of its DC-6's on the route to South America which it expects to open in June.

PAL Shifts to DC-6's

Philippine Air Lines expects to introduce the Douglas DC-6 into trans-Pacific service this month. The new transports will be used in scheduled once-a-week service between San Francisco and Manila, with the inaugural flight tentatively scheduled for May 14.

At present, PAL operates two weekly DC-4 flights out of San Francisco, with departures on Wednesdays and Sundays. The new schedules will provide DC-6 flights out of San Francisco on Fridays and DC-4 flights on Tuesdays.

DC-4's replaced by the new equipment will be shifted over to service from Manila to Hong Kong and Shanghai.

CIVIL AIR REGULATIONS

Obsolescent Regulations

Suggested changes in existing transport category performance requirements (Part 04b of Civil Air Regulations) were urged at the recent SAE national aeronautic and air transport meeting in New York. In a paper titled "The Fallacy of Arbitrary Performance Regulations," R. W. Ayer and F. W. Kolk of American Airlines protested that present regulations covering performance after power failure on take-off or enroute are (1) too complicated to be readily understood and applied by pilots and dispatchers, and (2) too restrictive under certain conditions on the operation of new types of transports.

Kolk and Ayer, after showing the obsolescence of current regulations, proposed substituting a positive angle of climb over all terrain (one engine inoperative) for the present V_{23} law. They also suggested more objective definition of flap angles; greater consideration for equipment which normally operates at considerable altitude over dangerous terrain; and a simple guarantee of terrain clearance in all flight regimes, regardless of temperature and turbulence, in place of the present complex definition of performance under various conditions.

30 HOUR CHECK

By DAVID SHAW

MOST airlines analyze engine failures in terms of engine hours operated. Pan American's Pacific Alaska Division has reported its 1947 engine incidents in terms which are more understandable and more impressive to the flying public—72 times around the world per engine failure in the air.

Speaking of PAA in the Pacific, the now-famed *Sleeperette*, which has proved to be such an important selling aid, grew out of a sort of nebulous opportunity which might have been overlooked entirely. When Pan American took the Constellations off the Honolulu run to use them over the Atlantic, it seemed desirable to fix up the DC-4's with added comfort to make up for the loss of speed. Since the DC-4 fuel load to Honolulu permitted carrying only 25 passengers, there was ample cabin room for a spacious seating arrangement, and the *Sleeperette* idea turned up in the search for an attractive and comfortable cabin arrangement. It has proved such an aid in selling seats and pleasing passengers that Pan Am has put it on the trans-Atlantic run to South Africa.

Another piece of new construction we noticed when we were down in Miami a couple of weeks ago was a high board fence separating Eastern Air Lines' parking area from the nearby runway in Eastern's corner of the field. It looked sort of like a giant snow fence, maybe 12 feet high, sloped away from the parking area at perhaps a 60 degree angle. Seems that running up the engines on Eastern's parked Constellations created an artificial but powerful cross wind over the end of the runway at a point where approaching pilots were least interested in dealing with unexpected turbulence. Eastern services a lot of planes in this tight corner of the field and rather than turn its Constellations around to blow across the terminal parking lot and the highway, the fence was erected to deflect propeller blasts away from landing planes.

An active effort is being made by the Air Transport Association to improve and standardize airline handling of squawk sheet complaints. Every airline seems to have a form with space for noting when the complaint has been filed, but beyond that some airlines do nothing and others don't do much.

ATA would like to see every operator keep the sheets cumulatively in the airplane for a period of 15 days; route all squawks to engineering and operations; analyze the squawks; notify the pilot of action taken; and establish both a pilots' engineering and maintenance committee of company departments to meet and discuss recurring complaints.

May 1, 1948

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Cross-Wind Transports

After a year of experimental work, the Civil Aeronautics Administration felt that swiveled-wheel installations for safe cross-wind landing of twin-engine passenger and cargo aircraft had been proved practicable. To prove its point, CAA put on an impressive demonstration at Washington National Airport a fortnight ago in which a DC-3 and a Model 18 Beechcraft made repeated landings in a 20-mile cross-wind and "crabbed" down the runway with nose angled into the wind.

Previously, castered gear installations on lightplanes had been proved successful, and the gear is now being offered as optional equipment on several single-engine planes. The DC-3 castering mechanism is essentially the same as that for the lightplanes, major difference being the angle of caster necessary to overcome ground looping tendencies when landing in a strong cross-wind. In the lightplane device, 25 degrees of caster was needed to provide sufficient yaw angle, but in the DC-3 wheel, because of the plane's faster landing speed and additional weight, Goodyear Aircraft Corp. engineers have built in only 15 degrees of caster.

In order to obtain the desired pivot, the kingpin on which the wheel pivots was angled 30 degrees with the ground in such a manner that the point of intersection with the ground would be ahead of the tire point of contact. Surrounding the pin is a stationary compensating cam in the horizontal plane so arranged that it will raise the airplane slightly as the wheels pivot, thus providing necessary static stability.

This stability is accomplished by a cam follower which rides in the compensating cam at the base of the kingpin and is attached to the airplane axle. The main wheel bearings ride between the kingpin housing, or hub, and the wheel itself. The cylinder for the single disc brake, necessary to this type of gear, is anchored to the hub while the brake disc is splined to the wheel in the usual manner.

The kingpin angle is sufficient to be favorable to desired pivot effect in even the most extreme attitudes of "tail high" take-offs or wheel landings and also precludes any tendency of the new wheel assembly to reverse under load, a normal reaction in castered wheels.

On the high end of the kingpin, or diametrically opposed to the cam follower, is a coil spring that helps to provide necessary vibration dampening and also returns wheels to the normal position parallel with the longitudinal axis of the plane when airborne.

Different engineering problems were involved in developing a castered gear for the Model 18 Beechcraft, because the landing gear of this plane retracts into



Cross-Wind DC-3—First large transport plane equipped with cross-wind landing gear is the Douglas DC-3 shown here, crabbed into the wind while the wheels roll straight down the runway. The castering mechanism, built by Goodyear Aircraft Corp., is contained entirely within the wheel itself.

a close-fitting well, requiring the positive dead-centering action and "shimmy" resistance mechanism to be housed entirely within the shock strut in order to avoid modification of the airframe.

Such a mechanism employing a hydraulically loaded cam and a van type "shimmy" dampener contained within, and using the standard air-oil shock strut as a source of fluid and pressure, was designed, built and installed on the Beechcraft by All American Aviation, Inc., which had had previous experience in modifying this type of aircraft.

On paper, the cross-wind landing gear appeared to offer distinct advantages to airlines certificated to serve or desiring to serve small towns which are unable to afford all-direction airports but could afford a single landing strip. Most airline operators, however, were inclined to wait on further experience with the cross-wind gear before considering adoption of the device. Meanwhile, CAA was far enough sold on the gear to begin giving serious thought to building its future National Airport Program for smaller towns around single-runway airports.

\$200,000 for Four R-2180's

Several airlines have been considering the new Pratt & Whitney R-2180 Twin Wasp as a replacement for the R-2000 engines currently used on their DC-4 aircraft, but they didn't know whether they could afford them. P & W finally released a cost figure: approximately \$200,000 per airframe, including the cost of the engines.

This figure covers the complete installation, including re-design of the DC-4 nacelle to provide for the additional weight and overhang of the new power plant. Douglas Aircraft engineers are now at work on the nacelle re-design. No other structural changes in the airframe are necessary, for the wing

does not need to be strengthened in order to support the added weight of the R-2180's.

Delivery of the first of the new power plants (rated at 1650 hp against the R-2000's 1,450 hp) is scheduled for next October. Pan American Airways is said to be considering shifting to Twin Wasp installations in all its DC-4's.

Magnetic Fluid Clutch

A newly developed magnetic fluid clutch, having extensive application in the field of aviation servo mechanisms, was demonstrated to the press for the first time last month by its inventor, Jacob Rabinow of the National Bureau of Standards. Developed in connection with work on electronic computers, the new clutch is characterized by high efficiency, smooth operation, long life and simplicity of construction.

Essentially, the clutch consists of a driving shaft with a plate at its end opposite plate on a driven shaft, the plates separated by an oil mixture containing literally millions of fine iron particles. When a magnetic field is established between the two plates, the iron particles form chains which bind the plates together as firmly as if held by strong spring clamps. Since this bond can be controlled by the amount of magnetization applied, clutch never tightens up suddenly to produce a jerk, Rabinow explained. "Chatter" also is totally eliminated.

Electrical power required for magnetization is quite small. Four watts of current, for instance, will serve a clutch handling 40 hp. In an automobile, to which the mechanism can easily be applied, the clutch would draw only one ampere from the battery in yielding 100 hp. Since there are only two moving parts in the clutch and they are never in contact, wear is practically non-existent, the inventor pointed out.

All patent rights for the device have been assigned to the U. S. government.

AMERICAN AVIATION

MODIFICATION

Try New Plane Flooring

The matter of ideal covering for airplane floors has long been a bothersome problem in airline operations. Conventional woolen carpeting was heavy, hard to clean, caught women's heels, and wore out after about six months of use. Two airlines now think they have found a better flooring.

The two carriers are Capital Airlines and Northwest Airlines. Their answers to the flooring problem are somewhat similar. Capital, after extensive testing on their planes, has adopted a flooring known as Avtrim, a product of the B. F. Goodrich Rubber Co., which consists of a plastic or vinyl coating with a 1/8-inch sponge rubber backing. Northwest, after months of laboratory and usage tests, decided to carpet its planes with a vinyl-coated Fiberglas cloth.

Both materials offer about the same advantages. Although higher in initial cost than woolen carpeting, they will last two to three times as long. They are 30% to 40% lighter than woolen carpets, which means a weight saving of about 50 pounds per airplane. They can be cleaned easily without having to be removed from the plane, as must be done with the usual carpets. They are fire-resistant and do not absorb spilled liquids. All in all, they seem to offer a good many advantages and economies for airline use.



Old & New—H. D. Estey, superintendent of maintenance for Capital Airlines, compares the new Avtrim flooring which the airline is putting in all its DC-4's with conventional carpeting in background.

Northwest is installing the vinyl-coated Fiberglas cloth on the floors of all its DC-4's and Martin 2-0-2's, and Capital is putting the Avtrim flooring in all its DC-4's. The vinyl coverings are not considered desirable by Capital for use in DC-3's because the smooth surfaces would offer the danger of sliding when the planes are on the ground with the tail lower than the nose.

OVERHAUL

Douglas Overhaul Business

The Douglas Aircraft Co. enters a new phase of operations with a contract for the 8,000-hour overhaul of 18 DC-4's for Eastern Air Lines.

Except for a few conversions after the close of the war, the Douglas company previously kept out of the service field, preferring to devote itself to the design and manufacture of new aircraft. Most of the C-47 and C-54 conversions, as a matter of fact, were made by outside service centers which Douglas authorized.

The switch in policy is the result of dwindling military and commercial orders, making both factory facilities and experienced workers available for the overhaul jobs, as well as creating the desirability of finding new avenues of revenue.

Indicative of Douglas' aggressiveness in competing for the overhaul business is the fact that it won the EAL contract on a fixed price bid, which also is a deviation from the company's policy. For Douglas, the EAL contract is a pace-maker contract on which the company can obtain the experience to chart future servicing ventures.

In this respect, the EAL work represents a good starter for Douglas, because the EAL DC-4's were converted by the Martin Aircraft Co. The Martin conversion interiors are different from those

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Man Hours

Cee-Bee
CASE
STORY
No. 58

Facts and figures
substantiate all
statements

Ship: Douglas DC 3
Condition: 400 flying hours. Aluminum surface badly oxidized and streaked.
Problem: Clean, remove oxide, brighten, passivate
Material: Cee-Bee A-3

For this production run a standard major scheduled airline DC 3 was used; heavily oxidized, covered with film; dull and streaked after over 400 flying hours through eastern smoke and soot. Cee-Bee A-3 was applied in an engineered cleaning procedure under supervision of a Cee-Bee aviation specialist, by three inexperienced men. The cleaning compound was applied and agitated with long-handled, semi-stiff brushes, in areas of about 6 feet square. Rinsing with low-pressure water completed the operation. **RESULTS:** The aircraft surfaces were clean, bright and free from streaks. Aluminum was the appearance of new alclad. The ship was more than satisfactory to the scheduled airline engineers. 5 gallons of material were used. The entire operation consumed only 8 MAN HOURS.

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OPERATIONS-MAINTENANCE

done by Douglas and there are some installations like the hydraulic system and the electrical work that also depart from the Douglas installations.

What Douglas is banking on is the knowledge and efficiency of its production workers in performing the overhaul job. It estimates it will use up to 400 men on the EAL contract and that all of them will have had 10 years or more experience in the Douglas plant.

The first EAL ship has already arrived at the Douglas Santa Monica plant where the work will be done. The others will be received as they reach overhaul time, but all of the work is to be completed by Nov. 30. No more than five planes will be overhauled at one time. The production schedule calls for six weeks to an airplane.

In addition to the major overhauls, four of the ships will be converted to cargo planes. Douglas also will install fire prevention items in the DC-4's and reseal the integral fuel tanks. The resealing will be with EC-801 and EC-776, the new-type resealing compounds used in the DC-6. Some minor revisions also will be made to make the entire EAL DC-4 fleet uniform in all respects.

PAC Cuts Engine Overhaul

Pacific Airmotive Corp. reveals that it has reduced the cycle time for the overhaul of an R-2000 engine from 36 working days to 17 working days, thus cutting the elapsed time an engine is unavailable for service from seven weeks or more to three weeks.

The saving in time has been accomplished by systematizing an engine overhaul into 16 operations and scheduling one per day. This method has been made possible by the sharp reduction in man-hours attained through the introduction of production-line methods in engine overhauls.

PAC's production charts show an imposing reduction in labor costs in the last few months. The charts disclose that from November through January, the average number of man-hours per overhaul, exclusive of accessories, was 357. In February this was reduced to 320 hours, in the first two weeks of March to 287 hours and in the last two weeks in March to 275.4 hours.

At a labor rate of \$3.15 per hour for the November-January period, the average labor charge for an overhaul was \$1,124.55. In the last two weeks of March, at a labor rate of \$3.75 per hour, the average labor charge for an overhaul was down to \$1,031.25. Thus despite a 20% increase in labor charges, the labor cost for an overhaul has been reduced nearly 10%.

AMC Contracts: Aviation Maintenance Corp., Van Nuys, Calif., has announced four overhaul and modification contracts totalling nearly \$500,000 signed with Pan American, TWA, Pacific Northern and West Coast Airlines.

MAINTENANCE

Feeders Merge Maintenance

Challenger Airlines and Monarch Air Lines, which previously consolidated their traffic and sales departments (American Aviation, April 1), have taken another step toward closer integration of their feederline functions in the interest of increased efficiency and direct economies.

Latest move of the two carriers, which serve contiguous territories in Utah, Colorado, Wyoming and New Mexico, was to consolidate their respective maintenance and overhaul functions.

The consolidated maintenance activities will be based at Monarch's shops in Denver and affects approximately 40 Challenger employees, some of whom are being absorbed into Monarch's work force. Challenger will continue its operation department headquarters at Salt Lake City, but the executive and accounting offices are being transferred to Denver.

Donald A. Duff, president of Challenger, emphasized that the consolidations "in no way reflect a merger of the two companies." Each organization, he said, will retain its own corporate entity and financial interests.

He added that these moves were in line with recommendations of the President's Air Policy Commission that, wherever possible, air carriers consolidate routine functions in the interest of economy.

CAA Maintenance Contract

Florida Airways has been awarded a one-year contract by the Civil Aeronautics Administration for the maintenance of CAA's D-18 Beechcrafts currently used in checking radio range facilities in the Florida area. Florida Airways, which uses Beechcraft D-18C's on its feeder airline operations, has recently enlarged its maintenance and overhaul shops to provide for the complete maintenance and overhaul of all aircraft and accessories in service on its system.

NEW EQUIPMENT

Acid Core Solder

A new development in acid core solders—a hard acid flux—has been announced by the Solder Division of Alpha Metals, Inc., 363 Hudson Ave., Brooklyn. Known as Alpha Tri-Core "Leakpruf" Acid-Filled Solder, the new product is said to offer these advantages: ability to solder stainless steel, monel, nickel and other metals not usually solderable with a core solder; three cores instead of one, with no added price; use of a synthetic acid considerably more active as a flux than the usual zinc chloride, yet only half as corrosive and readily washed off with water.

AMERICAN AVIATION

SAFETY SLANTS

THE National Safety Council is interested in expanding its coverage of aviation accident prevention. The excellent work done by its Air Transport Section has been principally in the field of ground activities in the scheduled carrier field and in awarding certificates for flight safety. The council is considering the development of a comprehensive program covering all phases of aviation safety.

Of course, there are many agencies in this field already, but E. P. Marconi, aviation staff representative of the NSC feels that there is a definite place in the picture for the type of accident prevention activities for which the council is well known. As a starter he is specifically interested in getting a safety poster program under way and would welcome any suggestions you may have to offer. Marconi has had considerable experience in the aviation safety field, having served as a field engineer for Travellers Insurance and as safety engineer for the old American Export Airlines. You may address him, E. P. Marconi, National Safety Council, 20 North Wacker Drive, Chicago 6, Illinois.

R. L. Pierson, superintendent of safety for Pan American's Latin-American Division at Miami, reports the development of a new type extinguisher for use on small magnesium fires, such as might be encountered in maintenance and manufacturing operations. The extinguisher consists of a hood or funnel connected to a cylinder of argon gas. A regulator reduces the pressure to a few pounds. Pierson reports that tests have shown the unit to be remarkably efficient on this difficult to handle type of fire.

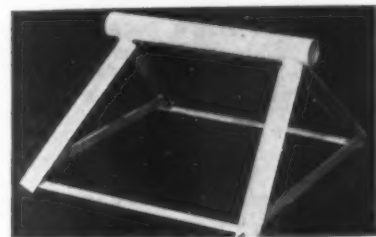
When were the fire extinguishers at your field given an honest to goodness inspection? You might get a surprise if you check this. The first thing to do is to weigh every carbon dioxide extinguisher and check the valve seals. Any showing a weight loss of 10% of the charge should be recharged.

Soda-acid and foam extinguishers should be checked for date of last recharge. If it is over a year, recharge at once, using a standard manufacturers recharge. Check carbon tetrachloride (vaporizing liquid) extinguishers for pump operation and refill if necessary. Be sure to use only fire extinguisher type carbon tetrachloride—never straight carbon tet—to avoid possible corrosion dangers. Your inspection will probably show some hose needing replacement or valves requiring service.

The solder is packaged in 1, 5 and 20-pound spools. The first two are shipped in 50-pound cartons, 50 and 10 spools to a carton, respectively. The 20-lb. spools are shipped two and three to a carton.

Aircraft Wheel Chocks

A new design for aviation wheel chocks has been announced by the Graymar Co. of Los Angeles. Maximum utility at minimum cost has been incorporated into the design to effect standardization of product in sizes for all type of aircraft, the manufacturer states. Three sizes—13½ in. high by 26 in. by 24 in., 9 in. by 19 in. by 17 in., and 6 in. by 12 in. by 10 in.—will ac-



commodate all diameters of aircraft tires from light type planes to the larger transports.

Each model size is reversible, thus increasing use among operators of several types. The member against which the tire is forced under run-up pressure is 2 in. pipe, which the manufacturer recommends to avoid damage to the tire. Non-skids pointed are provided. Weights of the chocks are 26 lbs., 16 lbs. and 10 lbs. Details and prices may be obtained from the Graymar Co., Box 2021, Wilshire-LaBrea Station, Los Angeles 36, Calif.

Luminous Exit Markings

Polonium, an element discovered by Madame Curie in her quest of radium and heretofore little used commercially, is now being marketed by Luminous Industries, Inc., of New York City, which thinks the product may be of interest to airlines in view of the CAA regulation requiring luminous emergency exit markings and passenger evacuation aids on all scheduled and non-scheduled passenger aircraft by Aug. 1, 1948.

Gas Temperature Indicator

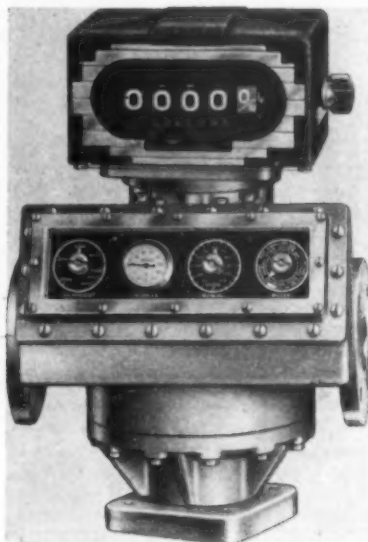
Fairchild Camera & Instrument Corp., 88-05 Van Wyck Blvd., Jamaica 1, N. Y., has announced a new gas temperature indicator possessing a range reaching 5,000 degrees Fahrenheit. Indicator is especially suited for use with gas turbines, turbojets, ramjets, rockets and for general laboratory purposes.

Fuel Temperature Meter

A new device of interest to airline people is a temperature compensating meter that will measure fuel accurately and compensate for weight, regardless

of its temperature. The meter is fully automatic, adaptable to all liquids within a range of .003 to .009 coefficient of expansion, and will compensate for temperature or fluctuations of temperature in a liquid from 0 degrees Fahrenheit to 220 degrees.

A product of the Granberg Corp., 1308 Sixty-Seventh St., Oakland, Calif., the temperature compensator is not an at-



tachment but is designed as an integral part of Granco meters of all sizes up to a capacity of 900 gallons a minute. Where 110 octane gasoline is specified, the compensator is adjusted at the factory to take care of all temperature changes in fuel, and the unit requires no further attention in the field. Completely flexible in operation, it may be adapted quickly to different petroleum products by simply moving a clearly marked dial to the coefficient of expansion of the liquid.

PRODUCT LITERATURE

A new specification sheet on corrosion preventives is now available from the Aviation Division, R. M. Hollingshead Corp., Camden, N. J. The sheet lists the various types of corrosion preventives, identifies them by the U. S. government designations, describes their characteristics, lists their uses, explains the methods of application and removal, and specifies the protection requirements for each type.

A folder that describes a method for analyzing all the production losses that result from the use of inadequate gear chucks is now being distributed by the Garrison Machine Works, Inc., 515-525 Banock St., Dayton 4, Ohio. Ten kinds of losses are analyzed in the folder.

Publication of a new Levermatic and Handmatic Collet Chuck catalog has been announced by Porst Bros. Mfg. Co., 259 N. California Ave., Chicago 12. The catalog is profusely illustrated and contains much information as to sizes and other data, as well as a price list.

Examiner Favors Forwarders

The CAB's announcement on April 2 that it had abandoned its proposed Economic Regulation 292.6 legalizing freight forwarders as indirect air carriers could have meant the Board had undergone a change of mind, or it might have meant only that the Board expected to deal with the question shortly in the broader Freight Forwarder Case. The way for such action was paved on April 21, when J. Earl Cox, examiner in the case, made his recommendations to the Board.

Cox filed a two-volume report to which was attached a proposed new Economic Regulation similar in many ways to the one the Board had proposed last fall and then had abandoned. He recommended that air freight forwarders be legally admitted to function as indirect air carriers, regardless of surface carrier affiliations, and that they be made subject to limited regulation but not be required to prove public convenience and necessity for their services.

On the latter point, the examiner said the public interest in and need for the services of the air freight forwarders had been established by the public witnesses who appeared in the case, and that, furthermore, "the amount of cargo now moving by air and an untouched potential is sufficient to justify their existence."

In the field of surface transportation, he said, the free play of economic forces brought forwarders into existence, and they have grown by giving a service for which the public is willing to pay. He expressed a belief that similar free play of economic forces in air forwarding would have demonstrated a similar need and cited as evidence of public demand for such services the fact that some forwarder service in air transport have developed in spite of the legal restrictions.

Cox recommended that Railway Express Agency's current operating authority—a CAB exemption order—be continued in effect and broadened to allow REA to use the services of non-certificated cargo carriers; that REA and the airlines undertake revisions of existing air express contracts to provide for payment by REA to the carriers of a fixed amount per ton mile of air express; and that these contracts be written to allow REA to fix and determine rates for air express which will be stated in REA tariffs.

The examiner concluded that the proposed continuation of REA and authorization of forwarders would not prevent development of Air Cargo, Inc., representing the certificated airlines, but that "vigorous competition" resulting therefrom should mean "advantages to the public in improved and more efficient services." He ruled out, however, REA's



Fur Mountain—Some \$80,000 worth of mink, marten, and squirrel pelts, recently flown from Tokyo to the U. S. by Pan American Airways, was said to be the largest single commodity ever flown from Japan. PAA's Rosemary Morgan poses atop the 3,500-lb. mountain of fur.

request for authority to perform forwarder functions because of the desirability of maintaining the distinction between "air express" and "air freight." "There will always be an element of competition between the two types," he stated, "which can best be preserved by discouraging the co-mingling in one agency of facilities for dealing in both."

Blow to Airlines. Cox's report contained a point-by-point rebuttal of the certificated airlines' objections to the legalizing of forwarders, and particularly as to their apprehensions that certain evils and abuses that have been noted in surface forwarding would be carried over into air freight forwarding. He said such fears were entirely without foundation, since any such abuses in air transportation would require the cooperative support of the direct air carriers.

Then Cox came to the controversial question of volume breaks or "spreads" in air cargo tariffs. These "spreads" between high-volume and low-volume rates are where the forwarders make their money, and the certificated carriers have all but eliminated them in their tariffs. Cox maintained that without such "spreads" the forwarders must charge shippers more than the shipper would have to pay the carrier and could justify this difference only by giving added service.

"If that service is not rendered and if forwarders can offer the shipper no advantages over the service provided by the carriers, then under the economic

laws of competition they should soon cease to exist," he stated.

Noting that most of the complaints against air cargo service have been directed toward the faulty ground handling of such cargo, Cox said it is safe to assume that the forwarders will be able to provide better ground handling than the carriers themselves have provided, because that is the feature of cargo transportation in which they have had the most experience and are most expert.

Discussing the legal aspects of forwarder regulation, the examiner pointed out that the Civil Aeronautics Act as written contains no specific regulatory provision for forwarders, but that many parts of Title IV provide standards which may be used in their regulation. Lack of affirmative authorization for forwarders was viewed by him as a major deficiency in the Act, and he suggested that CAB ask Congress to provide proper legislation on this point.

All in all, the Cox report was sharp medicine to Air Cargo, Inc., and the 16 scheduled airlines it represents. To the all-freight airlines such as Slick Airways and California Eastern, to the REA and to the 79 forwarders participating in the Freight Forwarder Case, it was the most encouraging news in many a day.

Air-Motor Interchange

Air cargo is a husky, growing industry, but it does not feel it will have attained full maturity until a shipper can fill out a single shipping document that will carry his merchandise all the way through to a consignee in any part of the country via a combination of air and motor truck carriage. A long step toward attainment of this goal is about to be taken.

A set of proposed instructions covering the interchange of air-motor traffic has been prepared by Air Cargo, Inc., and has been circulated to ACT's 16 airline members, to the Industry Advisory Board, and to the American Trucking Association, with May 15 set as the deadline for comment.

These instructions, which already have been substantially agreed upon by the interested parties, do not provide for a true "through" service, but according to Emery Johnson, secretary of ACT, neither the motor carrier nor the air cargo industry is "yet quite ready for that." A single through document for air-motor shipments will come in time, he said, and the present proposals should serve as an introductory medium and hasten that time, meanwhile developing new cargo potential.

Premise upon which the ACT's proposals are based is that special handling, special protection, special markings, special pick-up and delivery and similar services should be extended where possible for the expedited handling of all shipments interchanged between motor and air carriers. To help

effect such expedited handling, all actual interchange will be made at the air carrier's city (in-town) terminal at points where such terminals are located unless special arrangements are otherwise made.

Proposed Rules The proposals include:

No carrier will be obligated to accept any shipments which are contrary to its published tariffs.

The total rate to be charged for air-cargo interchange shipments consists of a combination of the motor carrier's inter-city rate; the air carrier's inter-city rate, plus its pick-up or delivery charge where such service is performed; and the air carrier's charge for transfer between its city terminal and the airport at the city where the shipment is interchanged. The latter change may be eliminated, however, if the air carrier has no city terminal and if the motor carrier's regular operation provides expedited service to the airport. Also to be added to the above are any other charges for special services such as collection of C.O.D.'s.

If two or more motor carriers or air carriers are involved in a through shipment, the through charge shall consist of the sum of all rates and charges computed as above.

Two shipping documents, a uniform straight bill of lading and a uniform airbill, must be used, and the latter must contain complete routing and other information through to final consignee at destination in accordance with instructions received from the shipper. The shipper's declared value must be shown on all documents.

Transportation charges for air-motor shipments will be settled in cash (or its equivalent) at the time of interchange, this being done through one of three methods: "collect through," "prepaid through" or "prepaid to interchange—collect beyond."

Instructions also are provided as to marking requirements, acceptance of shipments by carriers, sizes and weights, inability to deliver, and responsibility for loss, damage, etc.

These proposals fall far short of what ACI wants, but if they are accepted, as they probably will be, they will constitute a major move in the right direction.

Air Cargo's Ground Problem

With air cargo volume rising spectacularly, there is persistent evidence that the rapid growth of this phase of air transportation has caught the industry short on ground facilities to handle the property now moving by air. Clear warning of the dangers inherent in this situation and at least a partial definition of the airport space needs for cargo handling were given by W. F. (Bud) Rogers, vice president and assistant to the president of Slick Airways, at the recent meeting of the Airport Operators Council in Boston.



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AIR CARGO

Pointing to the rapid growth of air freight volume since end of the war and citing the belief of Pan American Airways and others that cargo revenues within the next ten years, at most, will exceed airline passenger revenues and that all-cargo planes in operation will exceed the fleets of passenger planes, Rogers warned that such growth could be stifled, or at least retarded, unless immediate steps were taken to provide adequate space at airports for the handling of cargo.

Indefinite continuation of the condition whereunder million-dollar terminal buildings are provided for airline passengers while cargo operations are confined to a wooden shack on the far end of the field is unthinkable and intolerable, the Slick official said.

His own company's costs of ground handling, Rogers said, could be reduced "by no less than 20%" with adequate space and facilities at the points now being served.

Unlike any other medium of transportation, he explained, inbound air freight and outbound air freight are handled simultaneously with the arrival of an airplane. Thus, if a plane's capacity is 10,000 pounds, and a 100% load factor were assumed, the carrier would need space for handling of 20,000 pounds of freight, or two plane loads.

Chicago Congestion. As an example of present space limitations, Rogers pointed to conditions at Chicago Municipal Airport, in and out of which his company is now operating eight planes daily, each having a capacity of over 10,000 pounds.

Assuming a load factor of 50% (low for his company) and that no more than three planes are on the ground at one time, the absolute minimum amount of space needed, he said, would be space adequate for the handling of 30,000 pounds of freight, or six half-plane loads. According to an engineering materials-handling formula he said 3,300 sq. ft., as an absolute minimum would be needed for handling this 30,000 pounds efficiently, whereas the company now has less than 1,000 sq. ft. including office space, at Chicago.

As a result, Rogers said, shippers at Chicago are paying higher air freight rates because of his company's inability to operate as economically as it could with adequate space facilities.

Talking in terms of specific space requirements, Rogers told the airport operators that an all-cargo operator needs, for every 100 pounds of freight handled, at least 18 sq. ft. for segregating and sorting, an additional 10 sq. ft. for pre-loading preparation, 70 sq. ft. for parts and tool repair, and 150 sq. ft. for minor repair shop space.

Speaking for his own company, he said Slick would be glad to compromise for 75 sq. ft. of office space per person, which is 25 less than the minimum recommended by industrial engineers.

In addition, he added, a company such as his own needs a minimum of 12,000 sq. ft. of ramp space—10,000 for the aircraft and 2,000 for truck maneuvering—for every plane it has on the ground at any given time, and this ramp space should be as close as possible to the company's dock space.

Also, in order to maintain high equipment utilization and decreasing unit costs, all-cargo lines have an occasional need for hangar space for de-icing purposes or an emergency engine change or other maintenance.

Rogers said airport operators could give the air freight industry three years' advantage over its present rate of progress by meeting the functional space requirements outlined above at "rates which are immediately an inducement and eventually compensatory."

He said the industry wanted to "pay its own way" and was seeking "no handouts," but reminded the airport operators that reasonable charges made to them would be passed on to shippers, thereby stimulating increased air cargo volume and boosting airport revenues by increasing landing fees, aviation fuel sales, etc., paid by the cargo carriers.

Air Cargo Market Study

Steps to incorporate the Air Cargo Institute of California to conduct research and market development work in air shipment of perishable products was taken at a meeting of the steering committee of the Air Cargo Project Committee in Los Angeles. Permanent officers and a board of directors are to be selected at a meeting which will be held in Oakland on May 7. A tentative first-year budget has been set at \$44,000.

Plans outlined at the steering committee's meeting call for an initial paid staff of four persons to carry out the group's program of conducting actual experimental shipments of agricultural produce and other perishable commodities to eastern markets. This staff would be expanded to a total of nine by the end of the first year, including a director, market analysts, field representatives to contact growers, shippers and distributors, and clerical help.

J. Prescott Blount, chairman of the project committee, said he was highly encouraged by the progress made in looking toward a definite research and marketing program. He emphasized the importance of getting the program under way with minimum delay to take advantage of the experience which can be gained through experimental shipments during the marketing season immediately ahead. He said results of the institute's work during the fruit shipping season could well pave the way for commercial operators to enter the field on a large scale in subsequent seasons.

Dr. L. L. Claypool of the University of California has been named to head a sub-committee to craft a research program for the institute.

AAAE Elects Officers

Key post in the American Association of Airport Executives is that of secretary-treasurer, a job held for the past several years by G. Patrick (Pat) Moore, of Chicago, Ill. At its recent annual meeting in Chicago, the AAAE turned the position over to new hands, those of Melvin H. Nuss, secretary-manager of the Reading (Pa.) Municipal Airport.

Douglass O. Langstaff, executive director of Moisant International Airport, New Orleans, was elected president, succeeding Neil Brackstone, of Lansing, Mich. Other officers named were: 1st vice president, Don W. Martin, Wilmington, Del.; 2d vice president, B. M. Doolin, San Francisco; and 3d v.p., Pat Moore.

Directors were named as follows: Cecil Meadows, Bakersfield, Calif.; P. G. Powell, Lexington, Ky.; C. V. Burnett, Detroit; Francis T. Fox, Worcester, Mass.; Roy Heaton, Anchorage, Alaska; Walter E. Betsworth, Sioux City, Ia.; Gus E. Hauser, Miami; A. H. Near, Louisville, and Wayne Parks, Beaumont, Tex.

Inflation Hits S.F. Airport

Increased prices will boost cost of the new administration building and passenger terminal at San Francisco Municipal Airport from the estimated \$3,500,000 to approximately \$4,500,000, according to B. M. Doolin, manager of the airport.

Scheduled for completion in 1950, the passenger terminal building at San Francisco is being designed for a traffic capacity of 15,000 passengers daily. The building will have a newsreel theater, drugstore, gift shop, men's and women's apparel stores, florist, beauty shop, barber shop, shoe repair shop, bank, dry cleaning shop and medical services as well as restaurant facilities encompassing everything from a snack bar to a de luxe dining room. The plans also call for parking area for more than 3,000 automobiles, a facility the S.F. airport now lacks.

According to present plans, a terminal corporation will be organized to function after the opening of the new passenger terminal building, but even so the airlines will retain their own ticket counters.

It is Doolin's theory that the airlines should be permitted to maintain their competitive position up to the point of selling a ticket. For this reason he thinks they should operate their own ticket counters at a terminal. But he believes that after the ticket is sold, a consolidated service organization can take over more effectively and economically, checking in the passengers for their flights, handling baggage and so on. The terminal building is being designed for this separation of activities.

Work on the expansion of the San Francisco Airport, for which the voters authorized \$20,000,000, is progressing. About \$5,000,000 of the fund was spent in land acquisition and reclamation, the relocation of the Bayshore Highway and construction of strengthened taxiways.



Fire Fighting Trailer—A new fire fighting trailer, designed and equipped by National Foam System, Inc., Philadelphia, is shown pumping Aer-o-foam onto a simulated crash scene at Baltimore Municipal Airport. Note snowlike foam around edges of blaze where foam blanket has smothered fire. Hot oil fire was wholly extinguished in 2½ minutes. Pulled by a jeep or pick-up truck, the trailer has a two-compartment tank carrying 250 gallons of water and 25 gallons of the foam-making liquid, which when mixed produces 2,500 gallons of heavy, thick foam.

Size of the airport is being increased from 2,890 acres to 3,700 acres, with the present usable 500 acres being increased to 1,400 usable acres, and very high standard dirt fill is being utilized to raise the altitude from five feet above sea level to eight feet above sea level. The fill will be capable of supporting aircraft weighing 300 tons.

Two pairs of dual runways are being constructed. The two take-off runways will be 7,750 ft. long and the two landing runways will be 6,000 ft. long. They are being installed so that approach zones will be clear and unobstructed.

'Gofog' Man Still Waiting

E. H. Dimity, the "gofog," "nofog" man, is still waiting for a chance to demonstrate that his new calcium chloride burning equipment will chase away an airport fog.

Last summer Dimity installed four newly designed "gofog" vaporizers on one of the 6,000 ft. runways at Lockheed Air Terminal and got all set for Southern California's winter fog season. But the weather crossed him up. The fog season is practically finished and all winter Lockheed Air Terminal, open and clear, has been serving as alternate to Los Angeles Airport.

Just one ground fog drifted into the Lockheed terminal briefly one night and Dimity hastened to summon representative of the airlines, Civil Aeronautics Administration and others to the airport. It was a Saturday night and he

was able to scare up only a handful. Rounding up the observers delayed the start of operations until about 4 a.m.

The result was another inconclusive demonstration. The four burners were fired up, but so was the morning sun. When the fog faded away, the observers were inclined to give the sun the credit. Robert V. Burns, manager of Lockheed Air Terminal, ruled that the next test would have to be made by 2 a.m. so that if the fog was dispelled there would be no dispute as to how it happened. But there have been no 2 a.m. fogs.

The theory of "gofog" is that Dimity's "Chemical X," which is a white powder containing calcium chloride and is vaporized at 300 degrees Fahrenheit with fuel oil, dissipates the fog by changing the humidity. But observers from one airline described it as having only a FIDO effect, burning a hole just above the vaporizers to about 200 ft. They said it did not clear the runway.

Transocean Subsidiary. Transocean Air Lines has incorporated a subsidiary company named Transocean Engineering Co. to bid on the installation of approach lights and fog dispersal equipment and engage in airport construction on a world-wide scale. Transocean is the contract operator of the Landing Aids Experiment Station at Arcata, Calif.

Expansion into the construction field comes as Transocean enters its third year of business.

AOA's Westbound Traffic

One international air carrier—American Overseas Airlines—has uncovered a clue as to why westbound air travel across the North Atlantic has consistently exceeded eastbound passenger volume. A survey conducted among more than 1,000 passengers flying to the U. S. via AOA during a recent four-weeks period brought out the fact that nearly half of them were leaving continental Europe and Great Britain permanently.

Only 18% of the passengers interviewed were "officially" classified as emigrants, but 42% said they would not be returning to the homes they were leaving. Not all the westbound passengers were making the United States their final destination, however. About 26% were going on to Canada, and 8% were proceeding to the West Coast, where they were to emplane for Australia or New Zealand. By far the greater proportion were women.

Twenty per cent of those interviewed were flying on business, 19% were en route to visit friends or relatives, and 11% were flying to the U. S. to be married. More than 50% came from England, with Germany ranking second in passenger volume.

TOURS & CRUISES

With vacation season at hand, several air carriers have been busily preparing several types of all-expense tours. Among the offerings:

Delta Air Lines has completed arrangements for a group of all-expense summer vacation tours featuring a combination tour which will include a flight on Delta to Chicago and a cruise on the Great Lakes via the Georgian Bay Line, touching at Mackinac Island, Detroit and Buffalo (Niagara Falls), among other points. Other DAL tours will cover the Savannah, Ga., area, Miami and the Great Smoky Mountains of North Carolina and Tennessee.

Capital Airlines is repeating a service which proved popular last summer—combined air-boat all-expense tours on a time-payment plan. Tours include a flight to Buffalo and return, a trip to Niagara Falls, and a seven-day cruise on the Great Lakes beginning on Saturday and Wednesday of each week from June 19 through Sept. 1. Total cost of the tour may be covered in 12 monthly payments after the vacation is over.

Resort Airlines, Inc., is feeling out the market for a proposed three-week all-expense luxury cruise costing around \$1,000. Departures are planned from New York, via Cleveland and Chicago, on June 19 and July 10, with visits to Sun Valley, Glacier National Park, Yosemite National Park, Catalina Island, Grand Canyon, San Francisco and other points.



Delta at Miami—Delta Air Lines' tickets are bought and sold in elegant comfort since opening of this new ticket office in Columbus Hotel, Miami, in late March. Designed by Brevard Williams of Atlanta, Ga., the luxuriously furnished emporium is air conditioned, has special tinted glass to cut down discomforting sun glare.

Northwest Airlines, through Bankers and Merchants Travel Service, will offer a vacation air tour exclusively for camera enthusiasts. The tour, to be made in August, features an opportunity for a camera study of Yellowstone National Park and a Montana Ranch.

RESERVATIONS

UAL Speeds Reservations

United Air Lines' new "sell-and-record" reservations system, announced as in full operation last month seems to offer grounds for enthusiasm on the part of both the company and its customers.

Key to the reservations speed-up system, known within the company as "payload control," is centralization of all space control at UAL's headquarters in Denver. As seat sales are made in any of the 75 cities along the company's domestic routes, the news is flashed to the Denver center via a communications system composed of several thousand miles of private telephone lines and leased teletype wires.

When a flight reaches capacity booking, a "stop sales" message is sent out from Denver.

At the space control center, 79 men and women work in shifts around the clock, controlling space on 126 daily flights and handling almost 10,000 messages involving an average of 6,500 space requests in a 24-hour period.

The control office is connected by message chutes to an adjoining sound-proof communications room, and bookings are controlled by charts on "stand-by" desks near this room. All bookings

are listed here on flights for periods ranging up to three months in advance.

Clearly visible to all persons in the room is a "weather board"—a chart of United's entire system marked with the latest weather information from each of the key stations, together with its latest flight operations estimates. Reservations personnel work closely with flight operations in analyzing and meeting problems of weather interruptions, demands for second sections of flights, and any unusual operating conditions.

United's reservations system is patterned somewhat after TWA's Teleflight System, but incorporates "certain refinements," according to the company.

WAL Adopts 'Sell & Record'

Western Air Lines has speeded up its reservations procedures through adoption of a "sell and record" system which places control of all seats on all WAL planes in four recording centers—at Los Angeles, San Francisco, Salt Lake City and Denver—and enables any reservations agent to determine in less than a minute if space is available between any two points on the line.

When an availability chart shows that space is open, the agent fills out a form giving passenger's name, date, flight number and destination and relays this via teletype to the nearest recording center. It is then recorded on a control chart, and when a flight is sold out the recording center sends out a "stop sale" message to all stations. Space confirmations are five to ten times faster than under the old system.

NEW SERVICES

Domestic

Continental Air Lines on April 16 inaugurated service into Lawton-Fort Sill, Okla., through Post Field on the Fort Sill Military Reservation.

Eastern Air Lines expects to inaugurate scheduled service into Lafayette-New Iberia (La.), using the Lafayette Airport, by late June or early July. EAL will begin service to Augusta, Ga., on June 1.

Pioneer Air Lines planned to inaugurate services from Texas points to Clovis, Tucumcari, Las Vegas, Santa Fe and Albuquerque, N. M., on May 1, and to follow this segment with opening of services from Amarillo to El Paso, via Roswell and Clovis. A minimum of two round-trip schedules daily will be provided.

Trans World Airline began serving Santa Fe, N. M., on Apr. 24, and the following day inaugurated service to Baltimore, Md., Worcester, Mass., and Scranton-Wilkes-Barre, Pa.

United Air Lines is now operating the first all-cargo schedule between San Francisco, Oakland and Los Angeles. Flights operate southbound daily except Saturday and Sunday and northbound daily except Sunday and Monday.

International

British Commonwealth Pacific Airlines' inaugural flight linking Australia, New Zealand, the west coast of the United States and British Columbia was to reach San Francisco Apr. 28. The first westbound flight out of San Francisco was scheduled Apr. 30.

KLM Royal Dutch Airlines has a new fast through service to Palestine, departing New York Tuesday morning and arriving in Lydda Thursday afternoon. The usual Friday schedule out of New York continues. Return services from Lydda depart each Tuesday and Friday.

Pan American and Pan American-Grace Airways opened DC-6 service over their combined routes to South America on Apr. 15, cutting 8 hours off the fastest previous service. Flight time from Miami to Buenos Aires, via Balboa, Lima and Santiago, is 20 hrs. 25 min. Service is on Tuesdays, Thursdays and Saturdays.

TRAVEL BOOKLETS

PAA Guide: A compact, comprehensive travel guide containing up-to-date information on 140 cities and resorts in the United States, Alaska, Canada, Latin America, Europe, Africa and Asia has been published by Pan American Airways and is being distributed to travelers through PAA district sales offices.

UAL Travel Tips: A travel booklet titled "Your Skyway to Vacationland" is being distributed by United Air Lines.



Best Sellers— Washington employees of Capital Airlines are credited with best selling job in a company sales contest which ended April 15. Competing with five other major stations on the line's Washington-Twin Cities route, the Washington station reached the highest percentage of passenger quota during the 30-day contest period. Award for the winners will be a party featuring a drawing for an all-expense week-end trip to Bermuda for an employee and his or her guest. Above center, James W. Austin, director of traffic and sales, displays the Bermuda prize tickets to representatives of the departments involved: l. to r., Sam Hess, airport ticket office; Jane Beam, station traffic and sales; Kenneth Perande, operations; Jean Harmon, reservations.



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PASSENGER SERVICE

UAL Eliminates Check-Ins

One inconvenience of air travel that has long annoyed passengers has been the necessity for a new check-in every time they transferred from one airline to another or from one plane of a given company to another plane operated by the same carrier. United Air Lines last month took a step toward elimination of this requirement.

Since April 1, UAL has been giving automatic on-line transfers and gates passes to passengers when they check in for departure at their point of origin. This procedure eliminates check-ins when transferred from one United plane to another, and also eliminates everything but the weighing-in of baggage at stop-over points and the return on a round-trip ticket.

D. F. Magarrell, vice president in charge of passenger service, was pleased with the way the new passenger check-in procedure was working out and expressed the hope that United could set up similar automatic transfer agreements with other carriers so that transfer between UAL and any connecting airline would be equally simple.

There might even come a happy day, eventually, when all domestic airlines would reach agreement on the use of some such simplified procedure.

Hot Meals Assured for UAL

United Air Lines, which prides itself on the hot meals it serves aloft, had been worried because meals sometimes would get a little cool while on the ramp during a delay in loading operations. The company's equipment engineers have now come up with an answer to that worry.

The answer is a mobile airline dining service cart which can be hooked up to

portable motor generators on the airport ramp to insure that meal entrees are kept piping hot from the time they leave the flight kitchens until put aboard the planes.

The cart holds one complete planeload of cold and hot foods and liquid containers. Inside at one end are six storage compartments. The hot food boxes and liquid containers all contain electric heating elements and are plugged in when placed in their respective compartments. The cart is wired for 24-volt D.C. current, the same voltage as that in UAL's plane buffets.

The company says the carts can be loaded inside the flight kitchens, then pulled to planeside and elevated by fork lift to the plane door. A hinged aluminum hood on the side of the cart is then lifted, an end door is let down to form a ramp, and the attendant transfers the contents to the plane's buffet storage compartments.

An experimental unit is now undergoing tests at Chicago.

Air Mail Card: Continental Air Lines has prepared, for use by passengers on all its flights, what it believes may be the first air mail post cards. One side of the card features a full-color reproduction of the Convair Liner, while the other side has the usual space for messages and address, attractive artwork, and red-white-and-blue air mail markings. It requires the regular 5c air mail stamp. CAL regards its post card as another step toward the goal of having all first class mail move by air.

British European Airways, which began charging for meals last year, has eliminated all such charges aboard aircraft. Charges will continue for drinks (alcoholic and soft).



Hot Food for UAL—

New airline dining service cart, designed by United Air Lines for transporting foods from flight kitchen to airplane, can be hooked to portable motor generators on ramp to keep hot foods piping hot should loading operations be delayed. Above, operator unplugs generator cord as cart is hoisted by fork lift truck to door of one of UAL's DC-6's.

AMERICAN AVIATION

U. S. Domestic Airline Revenues & Expenses for January

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRAFFIC REV.	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDEPT. EXPENSES	NET OPERATING INCOME
All American	\$ 73,353	\$ 73,065	\$ 362	\$ 156,417	\$ 240,869	\$ 47,273	\$ 1,308	\$ 89,463	\$ 49,680	\$ 39,783	\$ -16,109
American	4,531,565	3,665,886	204,795	1,564,617	240,869	47,273	1,308	5,363,874	2,670,083	3,693,791	-1,632,269
Boeing	875,312	771,350	44,325	27,595	14,070	7,693	7,482	1,005,660	476,950	528,710	-130,340
Capital-PGA	1,286,287	878,463	233,231	26,161	68,545	5,606	14,521	1,658,728	713,854	944,870	-372,438
Caribbean	45,395	32,437	10,294	.....	924	657	.....	46,349	21,788	24,561	-3,054
C & S	479,093	379,393	64,858	18,557	9,900	4,562	.....	596,310	233,182	363,128	-117,217
Colonial	189,425	127,655	50,555	1,557	548	1,091	.....	235,356	96,016	139,340	-45,931
Continental	341,061	215,067	114,750	2,291	3,611	2,046	.....	365,859	162,730	203,129	-24,797
Delta	523,329	413,885	46,412	26,161	23,564	12,095	.....	1,117,174	531,241	585,933	-193,845
Eastern	5,365,889	4,904,855	138,683	131,735	71,318	105,642	2,988	8,923,323	2,637,599	2,283,734	444,566
Hawaiian	281,906	234,279	1,717	10,206	23,195	7,305	5,216	286,796	111,048	175,748	-4,890
Inland	168,039	116,394	47,973	1,299	529	833	.....	176,088	80,882	95,206	-8,049
NCA	426,288	331,359	81,945	4,998	3,407	3,108	973	494,536	197,584	296,952	-68,247
National	683,800	590,049	19,168	7,969	36,303	15,814	.....	855,977	434,283	421,694	-172,176
Northeast	213,459	150,265	50,483	4,678	5,349	578	909	415,447	190,474	224,973	-101,988
Northwest	1,212,733	1,031,099	103,445	46,325	23,280	7,889	2,062	1,863,848	785,615	1,078,233	-65,115
TWA	4,406,045	3,656,542	378,302	189,368	127,096	55,805	1,072	4,527,257	2,016,484	2,510,773	-121,212
United	4,087,940	3,374,774	281,675	216,631	194,814	31,832	6,368	5,204,030	2,077,303	3,126,727	-1,116,090
Western	535,540	444,130	54,991	8,699	9,933	4,175	200	735,973	309,662	426,311	-200,433
TOTALS	26,126,359	21,917,912	1,980,647	915,421	857,255	314,004	43,099	30,961,964	13,787,008	17,174,956	-4,835,604

U. S. International Airline Traffic for January

AIRLINES	REVENUE	PASSENGERS	REVENUE	PASSENGERS	AVAILABLE SEAT MILES	PASSENGER LOAD FACTOR	U. S. MAIL TON-MILES	FOREIGN MAIL TON-MILES	EXPRESS TON-MILES	FREIGHT TON-MILES	TOTAL TON-MILES	REV. TRAFFIC	AVAILABLE TON-MILES	% AVAILABLE TON-MILES USED	REVENUE PER AVAILABLE TON-MILE	SCHEDULED MILES	% SCHEDULED MILES COMPLETED
American	4,366	3,687,000	6,591,000	55.9%	6,463	2,761	.....	92,335	302,335	997,247	30.4%	155,244	171,768	87.4%		
Amer. Overseas	2,761	7,708,000	16,481,000	46.0%	103,831	14,126	155,945	.....	1,116,672	2,058,449	54.3%	438,346	523,837	82.3%		
C & S	1,065	730,000	1,850,000	39.2%	77	.....	5,195	79,786	214,584	37.2%	41,100	42,470	96.0%			
Colonial	976	765,000	2,261,000	33.0%	649	169	.....	6,636	90,528	206,164	43.9%	51,463	57,304	89.0%		
Eastern	1,653	1,719,000	3,598,000	47.0%	3,891	.....	.....	.....	112,299	494,078	41.1%	64,480	64,480	100.0%
National	3,035	923,000	1,649,000	56.0%	661	.....	16,527	.....	.....	273,373	41.1%	35,811	35,811	99.9%
Northwest	1,770	3,428,000	7,982,000	45.5%	71,788	11,304	2,551	69,111	598,995	1,106,127	47.1%	339,726	337,656	95.0%			
Panagra	8,198	8,526,000	14,495,000	58.0%	7,316	27,251	125,595	.....	1,078,827	1,977,345	54.6%	486,130	505,622	95.9%		
Pan American	58,833	46,578,000	92,055,000	50.6%	193,730	31,882	1,253,522	110,035	6,422,203	12,760,492	50.3%	2,448,456	2,528,173	96.2%			
Latin Amer.	6,409	16,800,000	28,635,000	58.7%	205,580	60,785	430,197	23,625	2,563,865	5,270,238	46.7%	739,496	963,622	76.6%			
Alamosa	6,822	20,328,000	31,593,000	66.3%	239,577	10,258	291,490	.....	2,653,369	4,261,939	62.3%	1,257,862	1,253,870	100.2%		
Pacific	1,472	1,882,000	5,130,000	36.6%	32,383	.....	101,596	.....	327,472	729,333	44.9%	170,333	203,889	83.4%	
Alaska	
TWA	4,617	12,777,000	29,805,000	42.9%	199,966	78,118	274,719	.....	2,010,545	4,018,093	41.7%	889,326	883,401	97.6%		
United	1,171	2,810,000	4,685,000	60.0%	19,940	.....	11,747	.....	321,444	506,318	63.5%	146,800	146,800	100.0%	
TOTALS	103,547	129,453,000	246,808,000	52.4%	1,105,852	296,654	2,671,889	306,937	17,837,940	35,753,570	50.6%	7,476,371	7,682,917	94.9%			
* Item formerly shown as express now shown as freight due to change in name of tariff.																	
** Figures not yet available.																	

U. S. Domestic Airline Traffic for February

AIRLINES	REVENUE	PASSENGERS	REVENUE	PASSENGERS	AVAILABLE SEAT MILES	PASSENGER LOAD FACTOR	MAIL TON-MILES	EXPRESS TON-MILES	FREIGHT TON-MILES	TOTAL TON-MILES	TRAFFIC REV.	AVAILABLE TON-MILES	% AVAILABLE TON-MILES USED	REVENUE PER AVAILABLE TON-MILE	SCHEDULED MILES	% SCHEDULED MILES COMPLETED
American	139,155	66,650,000	119,153,000	55.9%	450,471	389,298	1,281,427	8,751,616	16,615,465	52.7%	3,408,473	3,715,732	90.2%			
Boeing	31,026	11,345,000	22,834,000	49.7%	68,083	69,900	87,529	1,314,912	2,781,538	47.3%	742,625	827,570	88.0%			
Capital-PGA	55,032	14,058,000	32,930,000	42.7%	59,636	147,023	291,356	1,842,141	4,205,804	43.0%	1,031,410	1,252,389	82.4%			
Caribbean	6,322	393,000	770,000	30.5%	425	.....	484	38,515	70,691	46.0%	30,937	31,236	98.6%		
C & S	15,058	6,193,000	11,794,000	52.5%	30,053	48,379	38,743	699,675	1,401,159	47.2%	447,409	542,184	81.5%			
Colonial	7,606	2,145,000	3,657,000	58.6%	4,608	9,976	1,629	288,413	346,815	65.9%	175,062	182,694	87.8%			
Continental	.....	3,203,000	7,665,000	41.0%	13,504	9,060	13,163	342,740	828,144	41.4%	371,499	388,832	94.0%		
Delta	26,318	12,919,000	26,086,000	46.1%	75,746	65,347	106,651	1,493,964	3,651,417	40.9%	929,477	1,175,083	78.8%			
Eastern	136,980	84,405,000	134,976,000	62.5%	314,808	340,934	331,209	9,814,218	17,853,966	55.0%	3,746,244	4,186,104	89.1%			
Hawaiian	24,638	3,471,000	5,143,000	67.5%	2,653	9,998	47,817	353,059	602,147	58.6%	236,148	194,714	98.9%			
Inland	4,673	1,667,000	3,381,000	49.3%	8,364	3,094	3,278	174,395	344,729	50.6%	177,939	185,020	96.2%			
NCA	18,489	5,434,000	9,764,000	53.7%	19,089	13,674	12,716	565,797	1,014,230	55.8%	496,204	540,792	91.5%			
National	.....	1,907,000	3,682,000	51.8%	4,877	8,293	27,516	236,312	576,602	44.0%	106,961	111,755	94.7%		
Northeast	16,507	2,947,000	7,660,000	38.5%	3,944	13,320	14,746	312,632	773,409	41.0%	228,070	251,999	84.9%			
Northwest	33,904	17,004,000	33,614,000	50.6%	162,577	121,892	77,866	2,014,707	4,133,433	48.7%	1,049,284	1,122,764	92.9%			
TWA	69,649	24,232,000	54,135,000	57.6%	777,410	405,894	587,892	7,009,971	11,568,419	60.6%	3,604,487	4,102,768	85.6%			
United	103,192	58,386,000	98,757,000	59.1%	591,947	532,081	1,113,421	7,838,124	14,378,206	54.3%	3,948,007	4,170,412	92.7%			
Western	20,199	7,743,000	14,384,000	51.7%	30,847	19,822	49,094	842,585	1,827,351	66.1%	479,464	482,194	98.7%			
TOTALS	713,048	324,102,000	631,793,000	56.0%	2,621,042	2,195,895	4,089,337	43,927,088	83,049,605	52.9%	21,274,360	23,465,064	88.9%			

* Figures not yet available. Data will be included at a later date.
** Does not include 569,776 miles which were scheduled but not flown because of pilot strike Feb. 3, 1948. If these miles were included the completion factor would be 15.5%.

NOTE: Final figures for Western Air Lines -- Month of January, 1948: Freight ton-miles 327,086; Total ton-miles revenue traffic 9,994,394; % available ton-miles used 51.1%.

Starting with this month the reports of All American Aviation, which heretofore have been included among the U.S. domestic trunklines, will be listed with the U.S. feeder airlines.

U. S. Domestic Airline Revenues & Expenses for Calendar 1947

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRAFFIC REVENUES	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
All American	971,828	68,301,259	956,687	13,345	1,923,383	2,762,673	798,236	1,028,159	572,954	455,205	-56,331
American	78,128,835	9,937,455	3,094,659	315,384	109,273	89,739	106,018	82,287,959	34,846,408	47,441,551	-4,199,124
Branchiff	11,076,239	14,228,247	3,066,020	711,582	618,513	74,595	217,212	12,256,034	5,795,873	6,460,161	-1,177,795
Capital-PCA	19,225,781	376,518	136,407	.....	13,303	3,322	12,390	21,177,020	9,704,914	11,472,106	-1,951,239
Caribbean	546,965	.....	.....	.....	.....	.....	.....	571,903	239,039	332,864	-24,938
C & S	7,127,629	5,716,521	944,240	227,744	112,741	57,718	39,697	7,853,822	3,389,781	4,524,041	-726,193
Colonial	2,961,565	2,312,569	576,998	31,852	5,561	20,682	7,421	3,740,481	1,643,561	2,096,920	-778,916
Continental	4,444,844	3,038,546	1,225,491	35,716	35,927	31,222	18,686	4,325,856	1,813,783	2,512,072	-118,968
Delta	11,116,521	10,025,544	452,548	274,469	207,922	124,736	15,192	11,824,779	5,437,791	6,386,988	-707,728
Eastern	51,385,852	46,760,617	1,549,822	1,478,564	600,911	799,208	32,122	48,526,149	24,298,763	24,227,385	2,859,703
Hawaiian	3,353,912	2,725,532	25,532	108,704	307,515	93,431	51,540	3,167,443	1,260,775	1,906,668	186,469
Inland	2,113,192	1,478,199	593,241	15,692	8,082	11,761	.....	2,062,691	1,001,263	1,061,428	50,300
MCA	5,570,875	4,473,558	951,370	60,262	32,041	32,491	10,616	5,489,297	2,233,843	3,185,454	151,578
National	9,510,056	8,646,931	300,916	135,362	180,055	204,591	3,857	10,538,327	5,183,673	5,354,654	-1,028,271
Northeast	4,268,081	3,466,999	672,080	58,449	23,786	11,446	3,427	5,511,436	2,534,310	2,977,125	-1,243,354
Northwest	19,730,643	17,417,070	1,266,841	602,031	241,663	136,968	39,410	21,358,017	9,198,282	12,159,735	-1,627,374
TWA	49,289,897	41,847,376	3,416,012	1,935,860	1,147,609	510,253	261,630	54,036,996	22,714,754	31,322,241	-4,747,098
United	66,271,739	56,904,948	3,779,910	2,535,894	2,195,523	531,403	2,824	71,475,437	28,516,574	42,958,863	-5,203,699
Western	10,271,384	8,636,029	976,884	144,588	119,866	70,332	37,908	10,959,750	4,950,379	6,009,371	-688,366
TOTALS	357,367,838	306,293,918	24,445,964	10,608,981	8,722,514	3,561,956	1,927,262	378,121,036	165,276,720	212,844,316	-20,753,218

* Includes retroactive mail pay of \$459,541 for the period 12/1/46 thru 9/1/47.

U. S. Domestic Airline Revenue & Expenses for Last Quarter, 1947

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRAFFIC REVENUES	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
All American	334,998	16,663,771	332,659	2,392	1,052,806	213,509	.....	262,994	147,982	115,012	72,004
American	19,307,438	2,947,700	138,008	87,129	46,937	22,619	48,403	22,297,353	9,624,541	12,672,812	-2,989,915
Branchiff	5,173,656	3,661,315	854,600	158,074	225,052	20,451	163,495	3,204,254	1,588,513	1,615,741	-256,554
Capital-PCA	181,523	91,509	81,985	.....	3,489	798	1,555	5,114,508	2,392,233	2,722,275	59,148
Caribbean	.....	.....	.....	.....	.....	.....	.....	147,247	63,134	84,112	34,277
C & S	1,838,900	1,516,191	173,851	53,639	41,558	15,990	33,667	1,927,646	759,877	1,167,769	-88,746
Colonial	675,572	526,594	132,231	4,990	5,561	4,042	1,842	888,073	387,505	500,568	-21,202
Continental	1,567,515	756,113	780,836	9,203	12,562	7,443	6,723	1,136,851	472,731	664,120	430,664
Delta	2,746,780	2,401,153	135,744	84,674	85,233	28,761	8,529	3,211,173	1,465,780	1,745,393	-462,393
Eastern	14,329,538	12,970,638	427,864	402,182	265,559	226,802	10,884	14,442,124	7,533,543	6,908,580	-112,586
Hawaiian	869,557	707,063	6,742	36,707	82,281	23,112	13,295	867,073	311,473	555,600	2,484
Inland	496,877	343,170	143,257	4,493	1,781	2,945	.....	580,407	274,458	305,949	-83,530
MCA	1,401,323	1,119,731	237,550	16,648	15,516	7,696	2,141	1,452,680	606,028	846,651	-51,357
National	2,092,709	1,868,016	58,071	33,798	79,345	45,246	.....	2,648,508	1,348,895	1,299,614	-555,799
Northeast	1,007,177	787,202	181,143	14,522	14,000	2,162	1,118	1,361,544	590,288	771,256	-354,367
Northwest	4,611,642	3,942,613	354,722	141,508	127,961	31,140	9,720	5,464,796	2,374,505	3,090,291	-853,153
TWA	13,728,863	11,434,242	1,087,837	484,056	425,456	153,482	90,599	15,360,117	6,214,548	9,145,569	-1,631,254
United	15,688,175	13,111,313	940,690	653,949	780,546	130,136	27,718	18,268,164	7,512,148	10,756,016	-2,379,988
Western	1,742,071	1,424,519	135,792	32,506	31,767	11,278	4,211	2,469,403	1,092,589	1,376,814	-687,332
TOTALS	90,744,014	75,928,247	6,973,531	2,748,793	3,297,410	947,612	458,317	101,064,915	45,090,771	55,974,142	-10,320,899

* Includes retroactive mail pay of \$459,541 for the period 12/1/46 thru 9/1/47.

NOTE: Under CAB filing procedures, the airlines file a cumulative quarterly financial report for October-December in place of a separate statement for the month of December. Traffic data, however, are reported separately for each month.

U. S. Feederline Revenues & Expenses for Last Quarter, 1947

AIRLINES	TOTAL OPERATING REVENUES	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	FREIGHT REVENUES	EXCESS BAGGAGE REVENUES	NON-SCHEDULED TRAFFIC REVENUES	TOTAL OPERATING EXPENSES	AIRCRAFT OPERATING EXPENSES	GROUND & INDIRECT EXPENSES	NET OPERATING INCOME
Challenger	194,248	46,605	153,953	970	1,281	171	1,135	248,515	109,222	139,292	-54,266
Empire	116,100	23,927	87,233	791	.....	139	2,680	243,268	130,075	113,194	-127,189
Florida	116,027	15,121	100,111	269	.....	106	76	136,799	69,482	67,318	-20,772
Monarch	424,213	64,310	353,178	1,012	4,232	372	.....	353,894	176,678	177,216	70,319
Pioneer	536,523	237,932	281,572	2,876	979	1,184	4,104	547,712	281,172	266,540	-11,188
Southwest**	378,049	178,032	189,955	2,958	2,619	734	4,216	558,042	251,211	306,830	-179,993
Trans-Texas***	147,430	15,578	131,695	.....	.....	71	.....	173,286	67,256	106,030	-25,836
West Coast	203,175	74,669	125,228	1,211	.....	212	1,580	294,858	132,140	162,718	-91,683
TOTALS	2,115,765	656,174	1,422,925	10,087	9,111	2,909	13,817	2,556,774	1,217,244	1,339,130	-440,608
Los Angeles	36,927	.....	36,888	.....	.....	.....	.....	52,156	31,026	21,130	-15,229

* Includes retroactive mail pay of \$182,449 for period 11/27/46 thru 9/30/47 as determined by CAB rate order E-596 dated October 20, 1947.

** Figures are preliminary.

*** Began operations October 11, 1947.

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FOR SALE By AMERICAN AIRLINES, INC.

43-02 Ditmars Blvd.
ASTORIA, L. I., NEW YORK

- Douglas DC-3 Airplane Parts, Accessories and Ground Equipment
- Wright G-102 (C9GE, R-1820) Engine Parts, Accessories and Components
- P&W R-1830-52 Engine Parts, Accessories and Components

ALSO

- Douglas DC-4 Airplane Parts and Accessories and Ground Equipment
- P&W R-2000-13 Engine Parts, Accessories and Components (many of which are interchangeable with R-2000-7-9-11 Engines).

These inventories are available for inspection at our warehouses at Astoria, L. I., New York, Tulsa, Oklahoma and Fort Worth, Texas, and offered F.O.B. these points for domestic shipment at very attractive prices.

Prompt attention will be given to all requests for quotations directed to the attention of the Director of Surplus Sales at the above address. Write, Telegraph or Telephone (Ravenswood 8-1000).

Classified Advertising

The rates for advertising in this section are as follows: "Help Wanted," "Positions Wanted," "Aircraft Wanted or For Sale," and all other classifications \$1.00 a line, minimum charge \$4.00. Estimate bold face heads 30 letters and spaces per line; light body face 40 per line; box numbers add two lines. Terms, cash with order. Forms close 20 days preceding publication date. Rates for display advertisements upon request. Address all correspondence to Classified Advertising Department, AMERICAN AVIATION PUBLICATIONS, 1317 F Street N. W., Washington 4, D. C.

POSITION WANTED

AVAILABLE IMMEDIATELY, 7 yrs. Airline experience from cargo handler to Asst. Station Manager; also traffic rep. and agency; know international. Married; 28; car. Desire responsible position LaGuardia, Idlewild or California location. Box No. 614, AMERICAN AVIATION, 1317 F Street, N. W., Washington 4, D. C.

WANTED TO BUY

Engine overhaul shop capable handling up to P. & W. 1830. Must be excellent condition, modern, reasonable. Give fullest details. Box No. 615, AMERICAN AVIATION, 1317 F Street, N. W., Washington 4, D. C.

HELP WANTED

AERONAUTICAL ENGINEERS — Aircraft engineers with the ability to apply the theories of structures, supersonic aerodynamics and thermodynamics to the design of high speed airplanes and guided missiles.

DESIGN LAYOUT ENGINEERS — Two to five years experience in airplane design.

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Eaton Manufacturing Co. Issues Aviation Chronicle

A handsomely-illustrated 98-page *Chronicle of the Aviation Industry in America* is being privately circulated by the Eaton Manufacturing Co., of Cleveland. The publication covers the history and development of aviation in this country from 1903 through 1947 and is said to be the most complete single volume of this type ever published in the field of aeronautics.

Welman A. Shrader, director of publications for the Institute of the Aeronautical Sciences, provided most of the background material for the publication. The book is non-commercial in its approach. Some items of political significance which have affected the industry as a whole have been included as a matter of record. Eaton is furnishing copies to all corporate members of the IAS for their reference libraries.

SUPERINTENDENT of MAINTENANCE

WANTED by Local Service Airline in Denver

Challenger Airlines Company desires the services of an experienced airline maintenance supervisor to act as liaison man under consolidated maintenance and overhaul set up with Monarch Air Lines at Denver. Broad practical experience and good personality important. Work involves P & W DC3C aircraft. Salary dependent upon qualifications. Write complete personal and business background to:

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Terminal Building Stapleton Airfield, Denver 7, Colo.
Personal Attention: D. A. DUFF, President

Pilot Examination Kit

A "Commercial Pilot Examination Kit" giving detailed information on commercial pilot written examination has been prepared by CAA's Office of Safety Regulation. It is available from Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for 30c.

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WINGS OF YESTERDAY

25 Years Ago

An all-metal commercial airplane, which would seat 10 passengers, was under construction at Sikorsky Aero Engineering Corp., Roosevelt, L. I., N. Y.

In order to expedite the arrival of mail in London from boats docking at Plymouth, the Instone Air Line Co. offered as an experiment, to run an air mail delivery from Plymouth each Friday for one month.

10 Years Ago

(In AMERICAN AVIATION)

Five of the major airlines were preparing to sign long term leases for a union air terminal to be erected at Park Avenue and 42nd St. in N. Y. at a cost of \$1,500,000 to \$2,000,000.

The Bureau of Foreign and Domestic Commerce announced that exports of aeronautical products from the U. S. during first three months of 1938 totaled \$14,320,273, representing increase of 99.3% over a similar 1937 period when the total was \$7,183,113.

LETTERS

In Defense of Behncke

To the Editor:

Many of the pilots at this base helped sponsor your magazine before the first issue went to press. The pilots stuck with you through your lean years until your advertising paid off. We have read accounts of your trips on various airlines including world tours. Of late we have read more and more of your attacks on the president of the Air Line Pilots Association. We naturally wonder if there is any connection between these two items.

We are well aware of certain interests that have sponsored and vigorously directed a smear campaign against the Air Line Pilots Association aiming their abuses against its president. May we assure you that we are fully conscious of the purpose of this campaign and are not misled by such practices. We shall not lend dignity to your part by arguing particulars with you. We are completely cognizant of the facts and are most capable of appraising the situation without the help of some one who could better benefit himself by being neutral.

Our president is elected to office by majority vote in a truly democratic manner. His actions and directives are guided by majority vote and represent the thinking of the majority. Perhaps you have been misled into believing this is not true by certain traitorous individuals who would allow a confidential release, such as you published,

to reach your hands. Not even a mother loves such a son as this and I am sure you do not dignify your position by publishing and commenting on articles reaching you in this fashion.

On the other hand, we wish to invite your attention to recently published correspondence between Senator McCarran and Judge Douglass, Chairman of the National Mediation Board, regarding the National Airlines strike. You will find that the Mar. 22 issue of Aviation Week prints these letters and perhaps the next issue of your periodical will print them. In any event, you are sure to lend dignity to your position if you will give the aviation public this side of the story at the earliest possible date.

We assure you and all concerned that when the president of the ALPA does not represent the majority, we can and will make a change. Until this transpires we are united behind him. Your slur campaign only reacts to solidify us more strongly and convinces us that you are a tool of the interests that are futilely trying to destroy our unity. In this respect, and perhaps for the first time, you unwittingly came to our support.

There are over 500 Air Line Pilots Association members here in Los Angeles. It might behoove you to recall the help we have given you and try to maintain our friendship. Without subscribers there can be no advertisers—and without advertisers there would be no periodicals. We ask you as Gentlemen to be a Gentleman.

We challenge you to give this letter the same prominent editorial space in your next issue that you gave your latest unwarranted attack on Mr. Behncke. Please be certain that our letter is printed word for word.

(s) J. J. O'CONNELL,
LA Chairman, American Airlines.

(s) JOHN E. SHEASLY,
LA Chairman, Western Air Lines.

(s) E. F. KIESSIG,
LA Chairman, United Air Lines.

(s) K. A. WOOLSEY,
LA Chairman, Trans World Airline.

(s) L. M. WILLIAMS,
Regional Vice President—Los Angeles.

(Staff Note: The writers of the above letter unwittingly touched the editor in an extremely vulnerable place by referring to his "slur campaign." Webster's defines "slur" as: "to pass over lightly or with little notice; slight; also, to make vague, obscure, or indefinite by slight treatment." After working unusually hard on four editorials sharply critical of Dave Behncke, the editor's pride was so wounded at having pilots call his blasts mere "slurs" that he disappeared from the office for a whole week. He now threatens to leave writing and become a riveter. "If all I did was slur Behncke when I was trying my best to blast him with all the effort I could, I ought to retire from the scene," he said when he finally showed up in the office. Please, Messrs. O'Connell, Sheasly, Kiessig, Woolsey and Williams, look up those words in the dictionary before using them, will you? Times are tough enough as they are.)

Tired of It All

To the Editor:

After many years as a subscriber to your magazine I find that I do not desire to renew my subscription.

I am certainly in favor of freedom of the press, but as an airline pilot I am a little tired of your editorials which are directed against the airline pilot regardless of what the question may be. They seem to be written by a man whose chief connection with aviation is touring the world on an airline "Annie Oakley."

J. M. KIRKPATRICK
American Overseas Airlines
New York, N. Y.

(Editor's Note: We sometimes kinda get

tired of those editorials ourselves, Kirkpatrick, but much more to the point is that there wouldn't be any of those editorials you don't like if a lot of people weren't so awfully tired of the apparently predetermined policy of the present ALPA leadership to keep the labor situation turbulent and ruinous. You are lucky—you don't have to read those editorials. But industry isn't so lucky—it can't blithely ignore these constant surprise upsets over relatively minor issues. If just four editorials in six months have made you "a little tired," be assured that a wasteful and needless strike a year can become more than just "a little tiring" to others.)

Dependable Detectors

To the Editor:

We have read with interest your April 1, 1948 issue of AMERICAN AVIATION. We particularly noted the column "30 Hour Check," by David Shawe. In this article, reference is made to the humorous circumstances in connection with a South American airline and their utter disregard of fire warnings. Your article points out that the crew utilizes the fire warning lights similar to a slot machine; each man gambling on which compartment will first show a false alarm.

From this article, we gained the inference that fire warning detectors are prone to give false alarms to the extent that they are utterly disregarded. While this particular situation, as described in your article is humorous, we feel that the condition itself is potentially tragic.

We would like to point out that we have available a smoke detector for baggage and cargo compartments, which employs as its basic principle the detection of carbon monoxide as a product of combustion. This instrument is in airline service and there is no record of any false alarms from this equipment. It has proved itself to be completely accurate and dependable.

This is the only instrument to receive certification by CAA as complying with their Technical Standard Order C-1, "Smoke Detectors," although the issuance of waivers under this order permits the use of other devices for this purpose.

N. W. HARTZ,
Industrial Department
Mine Safety Appliances Co.

BOOKS

World Aviation Annual

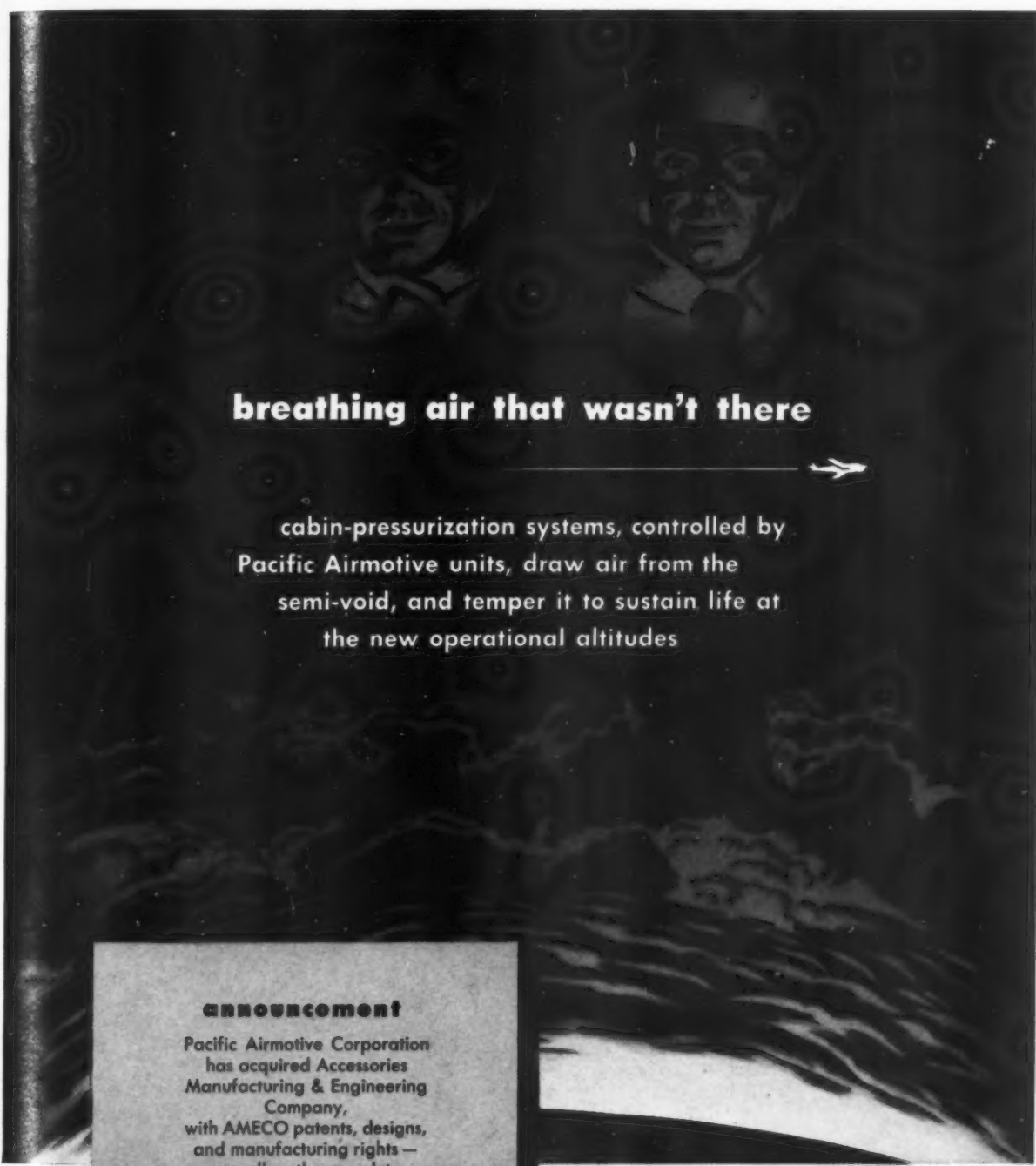
The 1948 World Aviation Annual will be published by the Aviation Research Institute, 1317 F St., Washington, D. C., this June, under editorship of Dr. J. Parker Van Zandt. The folio-size book of some 400 pages will include political, social, economic, and historical facts and data on world aviation. It will be sold by the Institute, a non-profit scientific and educational organization, for a pre-publication price of \$12.50 and for \$17.50 after publication, both plus 30c shipping costs.

Van Zandt is president of the Institute, founded in 1947. Board of trustees, under chairmanship of Charles H. Colvin, past president of the Institute of the Aeronautical Sciences, includes William P. McCracken, Jr., John F. Victory, T. P. Wright, and Van Zandt.

Work on the Annual, which was conceived by Van Zandt more than 10 years ago, has been going on for the past year under the editorial direction of Van Zandt and John C. McClelland, a v.p. of the Institute and former member of the Brookings Institution staff. Treasurer is Henry P. Seidemann, for over 20 years treasurer at Brookings.

The Annual was launched last summer as a project of American Aviation Publications and was subsequently released to Van Zandt.

AMERICAN AVIATION



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engineering talent, signifies our
aggressive entry into the
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of technical aircraft products.

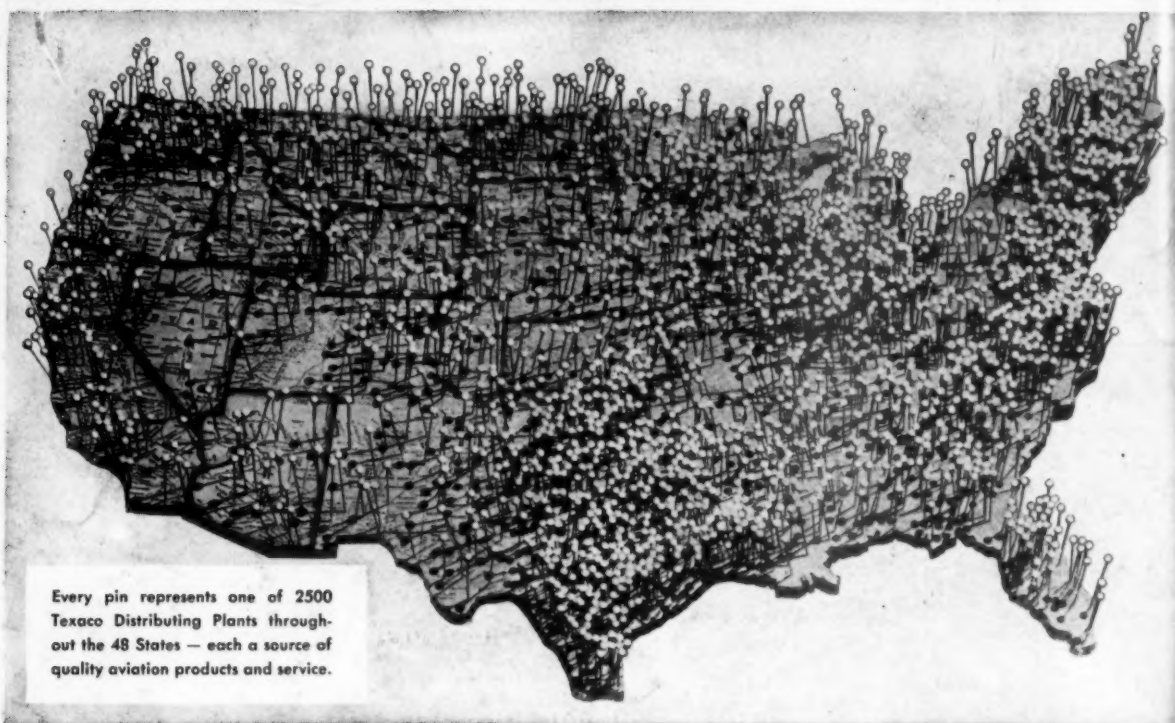
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